

BOARDWATCH MAGAZINE

Guide to Internet Access and the World Wide Web

DROWNING IN JUNK E-MAIL

Software to Market Your
Product to Millions at
Almost No Cost Using
Annoying Junk E-Mail

Software to Defend Yourself
From Annoying Junk E-Mail
SPAM KING - Jeff Slayton
SPAM FIGHTER - Pat Townson

MAPPING THE INTERNET

New Traceroute Web
Servers Allow You
to Map From Anywhere
To Anywhere



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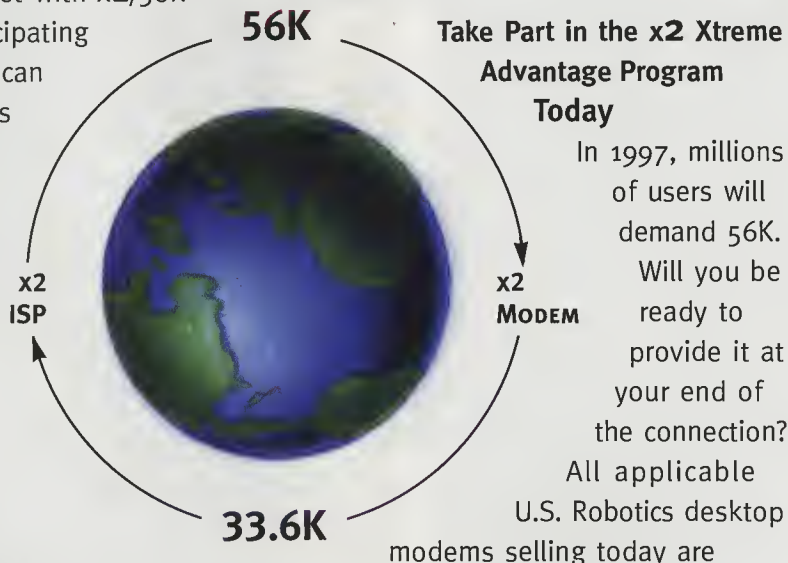
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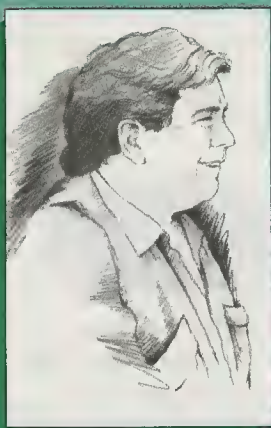


BOARDWATCH MAGAZINE

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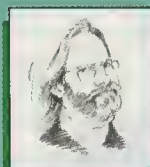
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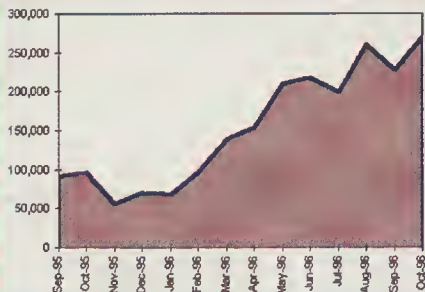
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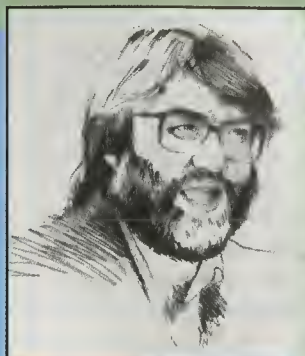


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EDITOR'S NOTES

by Jack Rickard

TECH-WARS CIRCA 1997

The Internet is entering a state change in technology that will likely cause some significant shifts in the array of winners and losers in the Internet Access game. Surprisingly, in the past six months the perception of who was on the Internet and how they got there has shifted dramatically. Most recently, America Online has acknowledged quite publicly that the Indians have been wandering off of the online reservation in search of the less costly and in many ways more effective connections offered by small Internet Service Providers. AOL's response is fairly predictable - "we're really an Internet Service Provider as well." They are restructuring their pricing and strategy to mimic the small Internet Service Provider. CompuServe and Prodigy, now Prodigy Internet are following a similar plan. Commercial Online Services, like the electronic bulletin boards, are becoming Internet Service Providers or leaving the business.

Among large existing ISP's, no clear trend is emerging. Netcom complains they can't make money. UUNET and PSI have backed out of dialup accounts and have strongly repositioned themselves as backbone operators who provide infrastructure for OTHER companies such as MindSpring, GTE, US West, AT&T to actually handle marketing, billing, and customer service for the unwashed dialup masses. At the same time, AT&T, most of the local RBOC, and for the second time both Sprint and internetMCI, are getting INTO consumer dialup.

But there are at least two significant clashes of technology that promise to alter the online landscape in some very real ways in 1997. And no, nei-

ther of them involve cable television delivery of the Internet. We still think THAT technology remains out on the horizon some distance yet. Apparently less than 10% of the coaxial infrastructure of cable tv actually turns out to be viable for two-way data transmission, and cable/fiber hybrids are actually quite expensive to deploy.

The two clashes of 1997 that will matter are ATM Switching/IP Routing, and two unexpected and incompatible advances in ordinary dialup modems - plain old telephone service.

The switching/routing battle has actually been brewing for some time. It is almost a subset of a larger battle between circuit switched communications and packet communications. Asynchronous Transfer Mode switches set up private virtual circuit streams of 53 byte packets. The packet overhead is a bit pricey, but it can setup these streams very quickly. Internet Protocol Routers of course open each packet, examine it for destination, and send it out an interface. By tying a router interface to ATM switches, we can get a kind of "hyper-space jump" between major cities. The routers think they are tied together directly.

But the urge is to marry routers to switches at increasing levels of granularity has been significant. Should routers switch, or should switches route then becomes the question. The answer seems to be that ATM switches should route. Ipsilon and Cascade have come out for something they call IP switching. Cisco has now responded with a bit broader vision called TAG switching. Tag switching, very simplistically, frames or "tags" IP packets with stream information and switches streams to a bit finer level of some 32,000 subnets. It also allows you to "tag" individual packets with information on such exotics as Quality of Service, geographic information, time of day information, even pricing

information. This opens the door to a variety of ways of pricing various levels of Internet service, at various times of day, between various geographies, in a much more flexible manner than the current backbones can accomplish. We'll do an entire article on tag switching in the next issue or so of *Boardwatch*.

56 KBPS MODEMS - ROCKWELL VS. U.S. ROBOTICS

The second clash of technologies comes from an unexpected front - modem connections to the Internet. It has been rather taken for granted that 28.8 kbps modem connections were the end of the trail for analog telephone connections to the Internet. It is true that most modem vendors have deployed 33.6 kbps models, but the ground surge of people rushing to buy new modems to get an additional 4.8 kbps of bandwidth has been a non-event. They did do it nearly a year ago. Nobody quite cared. The perceptual threshold or difference in "feel" between 28.8 and 33.6 kbps just isn't significant for one thing. It doesn't "feel" any faster. But perhaps more importantly, if your local lines are noisy, you'll more likely get a 24 kbps or even 19.2 kbps connection with your 28.8 kbps modem. If you upgrade to 33.6 kbps, you will STILL get a 24.4 kbps connection. So no gain at all.

Suddenly, Rockwell has announced a 56 kbps modem technology with a bit of a twist. Since today, rather than dialing all over the country and indeed the world to a variety of large commercial online services, as well as small individual bulletin boards and online services, almost everyone within the past couple of years has converted to dialing a SINGLE telephone number - the modem bank at their very local Internet Service Provider. Many ISPs have converted from a nightmarish room full of individual modems connected to individual analog phone line pairs, to a more man-

ageable remote access solution along the lines of an Ascend Max4000 device or a USR Total Control or NetServer system connected to the telephone network using a T-Carrier line that provide 24 individual digital channels to the central office switch - nominally 64/56 kbps each - over a single pair of copper lines. So the connection between the ISP and the CO is actually a digital connection. In other cases, the ISP is connected to the CO with a Primary Rate Interface (PRI) ISDN line - again a single copper pair carrying in this case 23 channels plus a supervisor channel.

In taking this into account, Rockwell devised a technology that took advantage of the fact that half of the connection from subscriber to Internet Service Provider was actually a digital connection. And so they are able to provide a kind of interesting asymmetric link with 56 kbps bandwidth from the ISP to the subscriber and 33.6 kbps in the reverse direction from the subscriber to the ISP.

Understand that there really isn't a direct correlation between the 64 kbps digital voice channel, and the 56 kbps data rate of the modem. They are still modems that use tonal phase and frequency shifts. But they take advantage of the fact that half the connection is very clean, and so they can do more of them.

Since most use of the web and the Internet tends to be similarly asymmetrical, the perceptual threshold of the subscriber is such that these 56 kbps links seem noticeably faster. Indeed, it isn't limited to 56 kbps and data rates as high as 70 kbps have been demonstrated. On the other hand, you may get into the 40 kbps as well. The 56 kbps seems to be about the "average" data rate touted. This is enough noticeably faster that end users would indeed be likely to spend a couple of hundred bucks upgrading their modems to gain a 56 kbps link to the web - particularly in areas where ISDN is not available or is priced completely out of the range of reality.

And this offers a similarly attractive opportunity to Internet Service Providers. If they can offer a 56 kbps dialup connection to the network in a competitive market, and particularly if their competition declines to do so

(or can't because they still use analog POTS lines), they have a marvelous new opportunity to differentiate their service from the "other" ISP down the street that is still plugging away with the closet full of analog lines.

This is somewhat exacerbated across the board by the fact that most of those ISP's WITH the closet full of analog lines and piles of modems would like nothing better than to be out from under them. But until now there have been some strong disincentives to doing so. First, the telco pricing is irrational. An incoming-only analog line can often be had for as little as \$25 monthly. A 24 channel T-1 varies widely in price, but here in US West country can be as much as \$2500 per month - nearly 4 times the price of the individual lines. Until competition does truly come to the local loop, we are constantly going to have to battle this historical/hysterical pricing anomalies.

Further, the nice pretty rack-mount remote access boxes offered by Ascend, Shiva, Hayes, et al run anywhere from \$18,000 to \$28,000 for a box that handles say 48 lines. The ISP already has \$12-\$14,000 tied up in the individual modems that they were able to grow a single \$300 modem at a time. True, some of these modem banks are such nightmares at a couple of hundred modems that it is sometimes less expensive to call the telephone company and have them DISCONNECT a line out of the hunt group than it is to go into the room of horrors and actually LOCATE the offending modem. But it is difficult to write the check to wipe out the problem where when you're done, your callers get precisely what they got before. Your work day may be easier, but you haven't advanced your business an inch.

The 56 kbps move actually gives the ISP something NEW to offer to their subscribers that can help increase revenues and market share. So it looks like a winner.

But as it so happens, and virtually simultaneously, U.S. Robotics has announced their own 56 kbps technology. Again, it requires a digital connection to the CO and use of the USR Total Control or NetServer modem packages. But USR doesn't use the Rockwell chipset. They use a Digital Signal Processor (DSP) chip and soft-

ware to make modem magic. So they could rather quickly develop this 56 kbps mode. And so they can almost literally upgrade existing hardware both at the ISP end AND the end-user modems to achieve the 56 kbps function.



Indeed, Courier and Courier Imodem users can upgrade the Flash ROM software for \$95 and there is some talk of \$95 chip upgrades for others. At the ISP end, it again looks like simple Flash ROM upgrades although the pricing runs from \$400 to \$2700 depending on what product is being upgraded. The result is that USR may be quicker out the door with 56 kbps technology than Rockwell and perhaps a bit less expensive ultimately - it's a bit early to tell. But they're talking of field trials with some significant ISPs THIS MONTH.

But the real trump card is that incredibly, the Rockwell 56 kbps and the USRobotics 56 kbps technologies are not compatible. They do NOT interoperate - at least at this time. A USR modem will not connect to a Rockwell chipset device at an ISP. A Hayes modem using the new Rockwell chip set will not connect to a USR NetServer - at least at the new 56 kbps.

And so from an entirely unexpected quarter, we are quite suddenly faced with a HUGE battle with enormous economic consequences for everyone, over which 56 kbps platform to support. This harkens back to days of yore with the U.S. Robotics HST proprietary modem standard. For Internet Service Providers, the advantage of offering 56 kbps is fairly enormous. But the disadvantage of picking the WRONG 56 kbps package is equally enormous. It is a huge investment in hardware that could be completely useless within a year. And for those already invested in one vendor or another, it's more a matter of hoping your team deploys quickly and ultimately wins.

For subscribers, the numbers are smaller but the consequences identical. If you pick the right modem, you get an immediate jump from 28.8 kbps to 56 kbps for in some cases less than a hundred bucks, plus perhaps a couple or three dollars per month premium for the 56 kbps connection to the ISP. Make no mistake, they will find this enormously attractive and be screaming for it within a month or two. But if they pick the WRONG modem, they're out the cost of the modem, and still limited to 28.8 kbps if they can't find an ISP that supports it.

For the hardware vendors, we are talking of nothing less than the total retooling/replacement of the entire dialup POP inventory of the country, if not the planet - at this point certainly many BILLIONS in new revenue - if they win. If they lose? Almost TOTAL FORFEITURE OF MARKET SHARE. Or at least retooling to become compatible with the winner, and dealing with the angst and anger of all those who bought the losing stuff from them and are now demanding that they do something - and it better be at no charge.

The bottom line is that the allure of 56 kbps dialup connections, in a world where ISDN never has YET reached full deployment and is in any event widely overpriced by the local exchange carriers, is undeniably powerful. It is going to happen. ISP's will be under enormous pressure to offer it, and the pressure will come almost overnight. And the stakes for every player in the game, from the consumer, to the ISP, to the hardware vendor, are simply ENORMOUS at all levels simultaneously.

And none of the traditional hedges look promising. It is unlikely ISP's will opt to offer BOTH. A few might, but it is simply a very expensive proposition. Rockwell and USRobotics could sit down and work out a technically compatible cross licensing solution. But the competitive urge and very real rewards deriving from a total win is almost irresistible.

And so it would appear the battle will be fought squarely on the field of the Internet Service Providers. Since one of the traditional advantages of the small service provider is that they CAN deploy new technologies almost over the course of the afternoon, we

suspect it will actually be won or lost at the level of the small service provider. It is simply easier to upgrade 32 modems than it is 3200 modems. The larger providers, with several hundred pops and several thousand modems to convert, will almost certainly take a windage and elevation reading before committing the more considerable resources required for them to make their move, though it may ultimately appear to happen rather quickly as well.

Both sides are already claiming victory. Rockwell has joined with heavyweights such as Lucent Technologies to agree on the Rockwell standard. They also have a huge slew of product vendors such as Bay Networks, Ascend, Cisco, Hayes Microcomputer Products, Supra, Shiva, etc. that are hurrying actual products out the door even as you read this.

U.S. Robotics on the other hand, has lined up some 41 major ISP's such as Netcom, US West, America Online, etc. who have come out in support of USR's x2 technology as the 56 kbps connection of the future. USR is also terribly well positioned in retail distribution of consumer modems - they simply sell more modems than anybody else in department stores all over the country. The software only upgrade concept will tend to have a price advantage, and they might have a few months advantage in actually making products available.

And almost certainly whichever 56 kbps the ISP's lunge for will powerfully determine the end consumers buying decision as well. Indeed, lacking a significant price differential, it may be the ONLY factor considered by millions of end users. "Hey Joe ISP- which 56 kbps modem should I buy?" Read - which do you support.

In the next issue of *Boardwatch Magazine*, the opening January issue for 1997, we'll take an early look at these two technologies. But a definitive look will probably have to wait for actual shipments of the hardware later in the year. Since we are already seeing ISP's announce support for one or the other, this appears to have a pretty quick fuse. So we also intend to add a column to our ISP listings in our Winter Internet Service Provider directory specifically to list whether or not each ISP offers 56 kbps connec-

tions, and if so, which one. I wouldn't dare venture a guess as to which will ultimately win between the Rockwell and USR x2 technologies, but we'll keep the score tabulated both closely and quite publicly through the quarterly directory throughout the year.

The bottom line is that lacking a common specification for 56 kbps, it promises to be THE battle in Internet access in 1997. While speculation abounds regarding WebTV, cable television delivery, wireless technologies, ADSL, and other exotics that promise someday, somehow to deliver higher bandwidth at an affordable price, historically the existing dialup market has carried the lion's share of traffic primarily because of its low cost. Even the perception of how businesses are connected to the Internet is not precisely the same as reality - with thousands of little LANS doing e-mail and even web over the thin wire of a 28.8 kbps connection. This is going on to a much larger degree than anyone talks about. The online community is insatiable for more bandwidth - as long as it is very nearly free. This urge has been the fundamental of online economics for more than 20 years and we don't think the Internet has changed it significantly. For this reason, we think you may ignore the importance of a 56 kbps technology that uses existing analog lines at your peril. It will be huge and will happen virtually overnight.

We'll offer to keep score. It should be an exciting development.

Jack Rickard
Editor Rotundus

Today's Weather:
Slight chance of showers, mid 60's
Tomorrow:
Clearing, some sun by afternoon, 70



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Keeping you ahead of the competitive storm

There is no brighter forecast for the future than the growth of the Internet access market. It is the perfect climate for innovation and opportunity. But as a service provider, you know that new competitors can appear on the horizon without warning. You can't stop the flood of competition, but you can move to higher ground. BayStream Frame Relay multiservice software gives you the power to differentiate yourself by offering Virtual Private Network services.

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Letters to the Editor

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LETTERS TO THE EDITOR

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YENTERPRO: SPAMMING FOR A LIVING

My name is Arthur N. Dunning III. This is the first time I have contacted you. I am not currently a subscriber, but I am in possession of a copy of your magazine. I am interested in information. Recently, I received a copy of a computer disk from a software company called YnterPro, which advertises on BBS's and in newspapers. I would like to know if you have ever heard of YnterPro. Any help will be greatly appreciated.

ADUNN3@aol.com

Arthur:

I found the demo disk on the Internet and downloaded it. Ynterpro is a Multi-Level Marketing program which recruits freelance spammers. It encourages "independent distributors" to post ads in newsgroups, along the lines of "Make \$3,000 a week - really works!" Distributors allegedly get paid \$50 for each new recruit, plus 10% of any "information products" they happen to sell - bet that you will have to buy an inventory of said products from your "sponsor" to qualify for commissions.

You will make more enemies than money if you follow Ynterpro's prescription. Aside from e-mail flames received from strangers annoyed by your ads in unrelated newsgroups, your family, friends and neighborhood stray dogs will shun your pie-in-the-sky importunities.

David Hakala



IQ INTERNET BULK E-MAIL SERVICE

Hi Jack, my name is David Feltovich. I'm thinking of investing in an outfit called IQ Internet. Their a new bulk E-mailing business. Do you have any information or know of anyone whom does. I just want to make sure they are legit. Thank you for your time.

David Feltovich
(203) 734-6440
df1152@pwrnet.com

David:

IQ Internet is the latest venture of Jeff Slaton, a. k. a. The Spam King. See this month's "Dr. Bob" column for an interview with Slaton in which he describes IQ Internet. We're not qualified (or licensed) to give investment advice about a specific venture, but given the public legislative attitude towards unsolicited e-mail advertising we'd be cautious about the industry as a whole.

David Hakala



HOW TO FIND THE LARGEST MAILING LIST?

Is there a service that lists mailing lists by number of members?

lgreer@prairienet.org

Gee, I wonder why you want THAT kind of sorting? In case it's relevant to your inquiry, you should know that a) most mailing list managers do not sell their lists, b) don't permit off-topic messages to be broadcast to them and c) in many mailing lists only the moderator can post messages - subscribers can't post messages to the whole list. You might be better off in the newsgroups, or buying a discreet ad in Randy Cassingham's "This Is True" humor list, which is received by over 150,000 people in 115 countries - mail to: arcie@netcom.com for details.

"Dr. Bob" Rankin, our resident e-mail guru, suggests <http://www.lsoft.com/ltop/LTOP-TODAY.HTML> - a service maintained by Lsoft, creator of the popular LISTSERV software. It includes "only" about 9800 listserv mailing lists, not lists maintained by majordomo, listproc and other programs. Here's the Top 20 as of today; we're pleased to note

that Dr. Bob's "Internet Tourbus" is number four!

David Hakala

Top 20 Mailing Lists by number of subscribers (22 Oct 1996)

SUBSCRIBERS	SITE
555110	DISPATCH@DISPATCH.CNET.COM
192120	SHAREWARE-DISPATCH@DISPATCH.CNET.COM
40066	TECHLINK@PEACH.EASE.LSOFT.COM
38296	TOURBUS@LISTSERV.AOL.COM
35916	PC-GAMES-NEW@DISPATCH.CNET.COM
35360	EOL-DISPATCH@DISPATCH.CNET.COM
31724	MS-WINDOWS3X-TOP@DISPATCH.CNET.COM
30942	SCOUT-REPORT@LISTS.INTERNIC.NET
24439	MS-WINDOWS-ALL-NEW@DISPATCH.CNET.COM
24376	NETGIR-L@LISTSERV.AOL.COM
23479	DISPATCH-HTML@DISPATCH.CNET.COM
23221	NEWS-DISPATCH@DISPATCH.CNET.COM
22928	WEEKS-WORTH@LISTSERV.AOL.COM
21596	MS-WINDOWS3X-NEW@DISPATCH.CNET.COM
21020	UCSMON@IUBVM.UCS.INDIANA.EDU
20696	DOS-NEW@DISPATCH.CNET.COM
18894	INBUSINESS@LISTSERV.AOL.COM
18034	ONLINE-L@PEACH.EASE.LSOFT.COM
17823	NEW-LIST@LISTSERV.NODAK.EDU
17482	CYBERSPACE-LAW@PUBLISHER.SSRN.COM



DON'T WANT ANOTHER COOKIE!

A few years ago I heard a rumor that I would like to share with the CyberWorld and hopefully enlighten some users on the World Wide Web.

I heard that when somebody used AOL, Compuserve or Prodigy the user's hard drive would be scanned and information taken via modem and given to Microsoft. I didn't think much of it, for I never called the "Big Boards." Nowadays I have second thoughts about how true that rumor is. Why? The best example of this would be to look at my web page at <http://www.bluemoon.net/~fudgie> and notice all the cookies Microsoft tries to send me.

It isn't just Microsoft's site that sends these cookies. Cookies are everywhere! The questions of the century (at least in my book) is:

What is in this cookie? What are you sending me? What information are you trying to collect from me? Why won't you let me view this page properly if I don't receive your cookie?

Not only is it annoying to get a popup screen telling me there is a cookie on the way, but if I don't accept this cookie, I get asked as much as 12 more times.

I find it a form of Cyber Harrassment and an invasion of privacy. I have not found one useful reason to except a cookie from anybody including Microsoft.

If I remember correctly "Boardwatch Magazine" put out a Java Script on "Cookies." It had the best definition of what a "cookie" is. I just went through eight copies of the magazine and needless to say I cannot find it. Would you be kind enough to let your users know once again what exactly a cookie is and does?

Sincerely,
Mary L. Szany
fudgie@bluemoon.net
Buffalo, NY

Mary:

Microsoft's Windows 95 online registration feature does indeed sniff your hard drive for hundreds of commercial software programs. This information is sent to Microsoft along with your Windows 95 registration data during the online session. The ostensible justification for this covert invasion of your privacy is to give Microsoft tech support staff a complete profile of everything on your computer that might be causing the problems you report. That excuse fails on two counts: 1) most users change their software collections many times after registering and 2) it still doesn't justify not telling the user what the online registration process does.

Many presumably guilty parties suspect that Microsoft included this "undocumented feature" to help catch software pirates. MS denies sharing user profile data with any other companies, and knowing how closed-fisted they are we tend to believe them. Bill Gates wouldn't lose a wink of sleep if every copy of Lotus Notes in use was stolen. But we wonder what happens if an unregistered copy of Word for Windows or any other MS product shows up in the user's profile.

Another theory holds that MS uses this information to target prospects for MS products to replace competing products. If MS knows you're using Wordperfect, it gains a Word for Windows "upgrade" prospect. But to our knowledge, no one has conducted any studies to see if there's a relationship between online registrants of Windows 95 and the type of direct mail offers they receive.

Prodigy took a lot of undeserved, hysterical abuse over its pioneer use of disk-based cache files. The Prodigy software does reserve a few megabytes of disk space for a file called STAGE.DAT, but that file does not contain information about your computer, bank account or what you do with your free hand while reading the newsgroups. It holds graphic images downloaded from Prodigy, so you don't have to download them every time you log on. It also includes records of the forums to which you are subscribed and other information that you would not want to re-enter every time you log on.

A cookie is simply a string of text sent by a Web server to your browser; it is stored on your hard drive in a file named COOKIES.TXT. Each time you retrieve an HTML document from the SAME Web server, that server reads its OWN entries from your cookie file. It cannot read cookies inserted in the file by other servers, nor can it sniff around on your hard drive the way Win 95's registration demon does. Its information-gathering capabilities are limited to your browser type, the domain from which you are requesting a document, your operating system version and other such innocuous data. There's no way a cookie can read your bank account database or tell if you have registered Windows 95.

I find many "useful reasons to accept a cookie," just as I do for a bartender who remembers what my "usual" is. Cookies serve as a Web server's on-demand memory of individual visitors. By storing and retrieving information about your browser's capabilities and what you did the last time you visited, the server is able to deliver banner ads that more closely fit your interests, deliver HTML page versions written for the specific browser you use, and otherwise adapt its behavior to suit your needs. Cookies can also automate the login process on userid/password protected sites, saving you a lot of keystrokes if you visit often.

The warning message shown in your screenshots accurately says that a page "MAY not display correctly." A server will not REFUSE to let you view a page

"properly" if you refuse a cookie, as your letter mistakenly indicates. But without the cookie that identifies your browser version, the server cannot HELP you view the page properly because it can't tell which version of a page is compatible with your browser.

Mike Erwin wrote the definitive article on cookies in our June 1996 issue; you'll find it at <http://www.boardwatch.com/mag/96/jun/bwm11.htm>. After reading it, you may want to turn off the cookie warning prompt and avoid all those interruptions. Here's how:

For Internet Explorer, pull down the View menu and click on Options. Select the "Advanced" tab and clear the checkbox labeled "Warn before accepting cookies."

For Netscape 3.x, pull down the Options menu and click on Network Preferences. Select the "Protocols" tab and clear the cookies alert checkbox.

David Hakala



ADVICE FOR INTERNET SHOPKEEPERS

Dear Jack Rickard:

The September 1996 issue included a letter from a Mr. Jim Cook that resulted in your relating some internet/Web shopping experiences.

I can offer you a slightly different take on this topic.

Most firms with something to sell seem to forget one of the absolute basics of the internet — that being the normal use of a local telephone call to access a world wide network! What this usually results in is viewing page after page of information in an attempt to find such basic information as what currency is being used for pricing and what countries are serviced.

For those of us in rural Canada, for instance, this is pretty important stuff in any purchase decision — after all, paying more for shipping, customs duties, customs clearing brokers and currency exchange than for the item(s) you desire doesn't always make good sense.

Obviously, a domain name that includes a country designation would take care of things nicely, but that isn't going to happen now, at least in any widespread manner. Something that would take care of the problem, and can be done pretty simply by Web designers, are home or opening pages that carry the

information. For instance, a statement such as "We offer retail/wholesale service to the US/Canadian/North American/worldwide markets from our location in Hometown USA/CDA/UK etc.". Wrap something like this up in nice graphics and you've quickly grabbed the interest of the audience (read market) you're actually after.

Other items further in to the transaction such as E-mail response time, pricing and stocking problems are still unresolved but at least fewer people are being annoyed — and any step forward has to be welcomed.

Ron Retallick
jretallick@heydon.com

Ron:

You've fingered something that's vaguely bothered me for some time. Being territorial animals, humans are instinctively concerned about the provenance of the other beasts they encounter. I've been chronically irritated lately by the majority of Web sites, which either provide no clue as to their geographic location or bury such information in the most obscure pages.

Obviously, a merchant needs to specify his location, if only to establish credibility with a prospective customer. Also, we are not yet "one world" by a long shot, and I suspect Internet shoppers have at least an unconscious preference for local merchants — at least "local" to their own nations. It makes returns and litigation so much easier!

David Hakala



ALTERNIC ARTICLE

Jack.

First off, we feel your magazine has maintained itself as the authority in personal communications, we love it. Our back issue collection is old enough to contain at least two inches of index style cover issues.

Yours and Mr. Hakalas' article "A Domain by any other name" in the October/96 issue while quite comprehensive and flattering to the Alternic appears to have lacked proper background research:

- references to the Postel draft while the intent was understood it was not made clear that the Postel draft is in fact not a draft at all but an IANA working docu-

ment. As a working document it is not supported by the Internet at large nor the ISOC which is mentioned as legally responsible in the document. During the Harvard meeting Mr. Heath went so far as to publically state that the Postel document will not be implemented in its present form.

- as to IANA, Mr. Manning and the whole "Sushi Scandal" Mr. Manning's resignation has, to the best of our knowledge, been refused and remains a member of IANA. For an accurate accounting of the incident you should refer to the newdom archives and not the two parties less than perfect memories.

- overall as far as the IANA/Postel plan. The Internet is a democratic community and those that suggest the law should not be allowed to suggest, edit without community input, review final drafts and discard the whole process and implement a dictatorship as Mr. Postel has done with his vision and personal agenda to new TLD creation.

- page 56: "you can get a TLD all to yourself for \$98 (US) which covers the first two years". Please reread the web page and acknowledge the error as it really is \$1200 (US) per year. In the case of Alternic 100% of all revenues goes directly into infrasture.

- in reference to the new TLD table on page 57:

"ego and greed are in all but one of these TLD registrations" Being the proprietors of ".art" and ".sky" we are grossly insulted. The iTLD of ".art" is reserved exclusively at all levels for not-for profit institutions (ie- ago.art "The Art Gallery of Ontario") and individual artists. Fees will be of a token nature as the bulk of the groups involved including SKYSCAPE Communications is undertaking this stewardship on a philanthropic basis. The iTLD of ".sky", both ourselves and the Alternic agreed that SKYSCAPE'S potential of more than 32,000 hosts within a 12 month period required better organization than the existing SLD structure.

We might add that true stats on the number of DNS systems resolving using the Alternic root servers are available in the newdom archives under "the truth about the Alternic - pt III". To date no other study has been done by any other group comprehensively and therefore it should have been mentioned that the Alternic system has better than the Libertarians 6% market share understanding that

the Alternic has better than 20% of the WORLD'S online population. Citing 100% of Malaysia, better than 20% of Canada, France, Switzerland and growing (please refer to actual study).

Due to blind political policy in the US, SKYSCAPE Communications Incorporated of Toronto shall provide Eugene and the Alternic with "sanctuary" in Canada.

Sincerely Yours,

Tim Gibson
SKYSCAPE Communications
Incorporated.
Toronto Canada
Fastlane.Net Limited.
London Canada

P.S. - We believe in the product so strongly and in its ability to better the Net for all that we have invested in A.T.C. Inc of Seattle Washington and the Alternic.

Tim:

Jack is blameless of all errata and omissions; I researched and wrote everything after his introduction to the domain name problem.

I guess if "the intent was understood" then it was "made clear" that draft-postel is very much a working document that might barely be recognizable in the final Internet Draft. I also took care to reference a URL of the latest draft, which spends the first several paragraphs disclaiming its own authority.

Mr. Manning had tendered his resignation at press time, and it was refused later. We are pleased that he remains active in IANA.

Postel certainly makes a forceful presentation of his case, but I didn't get the impression that he thought of "imposing" anything. He knows the Internet too well to start thinking like a Congresscritter. Indeed, I learned today (10/23) that the whole subject of alternative DNS registries has been referred to a nine-member committee, which should effectively preclude any "impositions" until the next century.

I did screw up the AlterNIC prices, as Gene Kashpureff later pointed out.

I am gratified to learn that there are more than one altruistic application of alternative domain registries (see the following letter from the good folks at the Monolith Coalition). But I don't think you qualify. Domain registration fees are already "modest." You have also regis-

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tered ENT and SEX with AlterNIC but mention no plans to give away names in those TLDs at bargain prices. Still, I understand your umbrage at my use of terms like "ego" and "greed." I never took insult at the term "baldie" when I had all my hair, but today them's fightin' words.

David Hakala

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OLDEST ALTERNATE DOMAIN NAME REGISTRY?

I used to read your magazine, but stopped a while ago because the content seemed to be missing detail. However, that's my personal opinion..

In any case, I heard about your cover story on domain names and decided to read it on your website. It's pretty thorough, but heavily biased towards the Alternic. I do not speak for anyone but myself, but I do run a service which gives out free domain names, the Monolith Coalition at <http://www.ml.org>. The Monolith Coalition is the largest and possibly one of the oldest (I started about a month after the Internic started charging).

Currently we only offer domain names under the secondary domain ML.ORG. However, with the openings of top level domains, we, and a very similar organization that started a few months after we did (<http://www.eu.org>) are considering starting a global FREE top level domain. Both the administrators of EU.ORG and I know that offering domain name service is not that complicated or expensive. The expense lies in the primary server and the secondary DNS. Our secondary DNSs are volunteers throughout the world, and the primary server will probably be funded through advertising, as many other free services on the Net.

I find it interesting that in your article you fail to mention either my service or EU.ORG, considering that you mention Yahoo, and we are the ONLY two listed under "Computers and Internet:Internet:Domain Registration: Free Name Registration." Please next time take the few minutes to provide complete coverage of the issue. It is true that the Internic and the Alternic are major players, but many of us outsiders are as interested and plan to participate as much as possible in the formation of new top level domains. We just may not be as loud.

Sincerely,
Aveek Datta
Hostmaster ML.ORG
adatta@cs.cmu.edu

Aveek:

Glad to hear of your alternative domain name registry. No slight was intended in our coverage. The main purpose of the article was to explain what's happening in the TLD debate and how DNS works. AlterNIC was the handiest example of an alternative to InterNIC. We're pleased to report others as we learn of them, and judging by the interest in this new business we just may need another directory like the Directory of Internet Service Providers to keep up with the registries.

David Hakala

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DOMAIN NAME BROKERAGE

I enjoyed your article on the current crisis in Domain Names but was amazed that you did not mention or assess the role that public recycling or sale of Domain Names such as at www.BestDomains.com

This Web site is about 3 months old and already hosts over 1200 Domain Names for sale, with about 200 added every week. Although the sale or re-sale of Domain Names will not solve the problems we face in the Internet Growth that is predicted, it does give a very good option to new companies coming on the Web and requiring a quality URL.

The facts as you even mentioned in your article that Domain Names do have value, is an aspect that very few ever predicted and as you may know most of the trading in Domain Names to date has been kept very quite, one of BestDomains.com goals is to "legitimise" and document the process somewhat so there is at least some value history to measure by.

mostly@harmless.com

Mostly:

We did mention domain name brokerage in passing, but as you say it is not a solution to the problem addressed in the article: how to accommodate multiple instances of the same low-level name.

The brokerage business is more of a nuisance than a positive influence, as it encourages registration of names that the registrant never intends to use. I'd prefer to see it discouraged. An effective disincentive might be to charge progressively higher fees for each name registered to a single organization, i.e., \$50 for the first name, \$100 for the second, \$500 for the third, etc.

David Hakala

WINDOWS NT 4.0 AND ISDN

Hello,

First, the usual kudos for the production of such an innovative mag both graphically and intellectually,

My question(s):

As you probably know, Microsoft has stated that it is possible to obtain 128 kb speeds using NT 4.0 over standard phone lines by hooking up 4 28.8 modems in tandem over 4 separate phone lines.

My understanding is that PacBell currently charges ~\$900 /month for such speeds using ISDN, while the Microsoft solution would be the cost of 4 modems plus the cost of 4 standard phone lines - a far, far cheaper solution.

Do you have any more information on this Microsoft high speed solution? Also, any predictions on your end regarding how such a solution might affect the spread of NT 4.0? Or perhaps more interestingly, how the phone companies will counter such a solution? Is such a solution even feasible on a large scale given the current availability of phone numbers?

Cheers,

Jon Lebeck.
owl@1rhcomp.com

Jon:

We haven't attempted to combine analog lines using Windows NT RAS 4.0, and the only safe prediction about new operating systems is that they will continue to surprise us with bugs - or "undocumented features," as OS developers prefer to call them.

Phone companies are typically divided houses, with one team of sales reps pushing analog lines and another selling "data grade" solutions over the same copper. I'd expect them to work against one another, producing a negligible net effect on the use of combined lines under Windows NT 4.0.

Right now, you can buy a "voice grade" T1 line and split it into 24 channels, each of which would handle 28.8 Kbps. I suppose you could combine them as needed, but how many of an ISP's customers would need it that badly? The end-user would need multiple analog lines and modems, Windows NT 4.0 Workstation or Server and the expertise to configure

RAS to combine lines. People like things simpler than that. It's more likely that business users will settle for a single 28.8 channel until a) they can afford PACtel prices with no sweat or b) PACtel drops its ISDN prices.

David Hakala

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WIDE-AREA "LOCAL" PHONE NUMBERS

Good Day Jack-san,

I'm writing to you from Poets & Writers, Inc., a non-profit literary service organization who's only goal in life is to help poets and non-fiction writers succeed professionally.

We've got a website up (www.pw.org) and are changing our TBBS software to Worldgroup, which is a little more netsavvy and has a good GUI. While we're building this new online service, we'd also like to offer local dial up access to our BBS using the Telenet or Sprintnet networks that Delphi and others use. Obviously we'll be reachable via telnet and direct dial, but most of our callers won't be familiar with or even have a PPP account, and certainly we don't expect them to dial long distance if they're not in the NYC area (which is approximately 95% of our readership). Seems that a local number to them would be a good way to get new customers.

Do you have any information on this? Who should we contact and what do you think the approximate rates are or should be?

Thanks a bunch!

Michael Muller
Poets & Writers, Inc.
www.pw.org
mik@pw.org

Michael:

If 95% of your membership is in the NYC area, call Nynex. For a price, they should be able to set you up with an expanded local calling area or with "foreign presence" phone numbers in the several area codes of that crowded city.

Or you may be able to bypass the phone company using wireless data connections to span the expensive border between area codes. Contact your local cell phone company to see if they offer a flat-rate call-forwarding service. Then all you need is a cell phone

number in each of the long-distance areas you wish to serve; each call to such a number would be forwarded to your BBS' phone number via the cellular network, bypassing Nynex's hard-wired network.

I don't think private data networks such as Sprintnet (which purchased Telenet years ago) could do much for your situation. Typically, they charge a minimum of hundreds of dollars per month per account, and are oriented towards high-volume business users.

David Hakala

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Hi Jack,

I believe Alex Wieder (November issue, letter to the editor, "Local Access Question") was asking this:

Who can I talk to to set up national access for my ISP business without having to establish each individual POP myself? Example: Earthlink doesn't own its remote locations nor does Microsoft. I believe they are using UUnet's dialup access on a sort of "virtual" basis. IDT has established relationships with many individual ISPs whereby they buy dialup access on an "as needed" basis. We're an ISP (above average in size according to your "Editions Notes") with 5 POPs and also seek the grail of going "national."

Your advice and info, as always, is appreciated.

Marc Silvestri, Pres.
LocalNet Corp.
marcus@localnet.com

Marc:

A number of the national backbone operators are moving toward "wholesale" Internet Services. At this point, I would point to both UUNET and BBN Planet as very active in this area. BBN provides service for AT&T and now America Online as well. UUNET does Earthlink and Microsoft Network. And PSI has moved all their PIPELINE accounts to MindSpring, but continues to provide most of the infrastructure.

There's also been quite a few interesting announcements on roaming during the last few weeks. Roaming, patterned after the cellular roaming agreements, allows a group of ISPs to offer cross services to their members. There are some technical and billing issues. The following web

sites offer some interesting information on the state of the project.

<http://www.ipass.com/>
<http://www.ipass.com/whatsnew.html>
<http://www.gric.com>

Jack Rickard

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WHERE IN THE WORLD IS "PUBLISHING ON THE WEB - PART 19?"

Jack,

To be or not to be? Is that the question? Am I dreaming or what? I cannot seem to find Part 19 to the "Publishing on the Web" column in print or on your **Boardwatch** Web pages. Did it get lost in the circular file of cyberspace? Just curious!!! BTW I have been reading **Boardwatch** for the last 2 1/2 years off the stand and I will be subscribing to BW in the near future. I really look forward to reading your magazine each month. Keep up the good work.

Daniel Dahl
dahlhaus@concentric.net

I have been reviewing the excellent series on Publishing on the Web by Michael Erwin in the Web version of **Boardwatch**. I seem to have come across a gap - July 1996 contains Part 18 of the series and August 1996 contains Part 20. Where is Part 19?

Joe Knueven
jknueven@tso.cin.ix.net

Daniel, Joe, et. al.:

I was just trying to see who's really awake out there when I skipped a number while editing Mike's column. After receiving your letters, I considered printing TWO "Part 23s" back to back to even things up; but I'm simply curious, not cruel.

David Hakala

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IP, THE NEXT GENERATION

A little over a year ago, there was a lot of fuss on the internet about how we were going to run out of IP numbers. Predictions were made that in less than a year the internet would collapse and various other dire predictions.

So, what's the status on IPNG? I've heard absolutely nothing since that time. As far as I can tell, I can still easily get IP numbers and that doesn't look like it's going to change in the near future.



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Also, on another note, do you think the phone companies are going to be successful in their attempt at per packet charges for ISDN — or will cable modems leave them standing in the dust?

Geoffrey Faivre-Malloy
gjf@mindspring.com

Geoffrey:

Regarding the availability of IP numbers, recall Joni Mitchell's famous lyric: "You don't know what you've got till it's gone." We could run out of IP addresses tomorrow, but you could still get one today.

Actually, the current problem is large blocks of CONTIGUOUS IP addresses - the kind of package major corporations want. A Class B domain comes with 65,000 IP addresses. Many of those go unused, but they remain unavailable to the next guy who wants a block of addresses. In fact, the InterNIC has stopped issuing Class B domains altogether, because contiguous blocks of 65,000 addresses are as endangered as blue whales. Waste is similar though smaller with Class C domains, which include 255 IP addresses. Class C is the smallest class, the kind we use at boardwatch.com, and we use only about 20 of our 255 addresses.

It is much easier to manage a contiguous range of numbers - 204.114.169.0 through 204.144.169.254, for example - than to deal with a list of random numbers. Moving an entire subdomain, for example, can be as simple as applying a command to a range of numbers in one command line, or as painful as applying the same command to several dozen numbers one by one. Guess what kind of IP address assignments everyone insists upon?

The present version of IP supports 64-bit IP numbers, allowing up to 2 to the 64th unique numbers, or enough to give about a million IP addresses to every resident of the planet. IP-NG ("Next Generation") will include support for 128-bit numbers, creating the potential for 340,282,366,920,938,000,000,000,000,000,000,000,000 unique IP addresses. That should keep us in Class B address blocks until next Christmas, at least. IP-NG is not expected to be formalized until well into 1997.

As for the telcos' metered ISDN vs. cable companies' flat-rate higher-speed connections, it all depends on whether we actually GET flat-rate cable connections. The cables could charge by the byte for "excessive" downloads, y'know. Also, every cable model I've seen is asymmetrical; megabits per second of advertising

and entertainment TO your home, but ISDN or slower FROM you to the world. Don't plan on running a high-volume Web server from your living room for \$20/month.

The cable companies want information providers on centralized servers, where they will charge about the same as any other Web Presence Provider. They may even charge more (until reality sets in), since they seem rather convinced they'll deliver a "higher-quality end-user experience" than the regular Internet due to the ability to exclude all that public traffic from their private network. We'll see. Cable companies have even worse customer service and downtime records than telcos.

In short, if cable companies could deliver today all that they promise, and did so at a flat affordable rate, metered ISDN service would disappear overnight. But we're years from widespread deployment of cable data service, and there's no guarantee of pricing or performance. So metered ISDN will be with us for some years to come.

David Hakala



16 YEAR-OLD WITH A BUSINESS PLAN

First off, I love your magazine... =)

On to the more serious part of my letter, though. The reason I'm writing this to you is that I have a great respect for your opinions, and there is a real lack of anyone else to ask this question of. I'm a sixteen year old high school student who really enjoys computers and telecommunications. I've been running a BBS for the past year and a half. I know a lot about the Internet. I've been considering starting an ISP up here in northern Wisconsin. The local high school offers a service (370 subscribers), as does the Director of Data services at the local hospital (110 subscribers—his ISP is not affiliated with the hospital, though). The problem is that, due to the isolated area, setup and first-year charges total somewhere around \$85,000. That's using the eSoft IPAD and a T1 from MCI.

My plan for pricing is a flat rate \$25 per month. The high school charges anywhere from \$10 to \$45 for fifteen to 120 hours. Mr. Reynold's service is comparably priced.

Competition is the biggest problem. The local calling area includes about 13,000 people. In addition to the two existing ISPs, Ameritech and the Bad River

Indian tribe are planning to set up ISPs. This creates difficulty—if you were a loan officer, would you take a 16 year old kid seriously if he walked into your office and asked for \$85,000? Probably not.

Anyway, now to the meat of my question(s). Do you suppose I'd have a chance to succeed? And if so, do you know of any way to save on the T1 charges?

Thanks.

Matt Schouten
mshooter@juno.com

Matt:

It sounds a bit like the Northern Wisconsin area is rather adequately served by Internet Service Providers. If I were a loan officer, no I doubt I would take an application from a 16 year-old for an \$85,000 unsecured loan to set up an ISP business very seriously.

In a competitive area in your situation, you need two things. A niche, and a smaller startup nut. They tend to go together.

The niche or angle on service should focus on what you've got going in your area. Do you have a lot of travelers? Skiing? What do people DO in your area both for a living and as a leisure activity? You need to be creative, and look for situations where everyone involved wins a bit by having participated.

An easy example that comes to mind is that you affiliate with one of the existing providers and get a bit smaller pipe to one of THEM. Build some coin operated terminals and hook them up in a coffee shop or hotel to create a little public walkup Internet area.

Another approach is to affiliate with one of the existing providers for web space, go out and offer a package to local businesses to design and operate a web site for them. There's so much of this going on right now that we've rather started to refer to it as WILL DO WEB DESIGN FOR FOOD. But the reason there is so much of it, is that to some degree it works.

What you are looking for is a MARKET - a group of people sharing some characteristic that could rather easily benefit by the Internet but don't know it yet or don't know how. Then you find a way to put together a package that will be irresistably appealing to them, and go present it. If the market is already being served, as apparently is the case in gen-

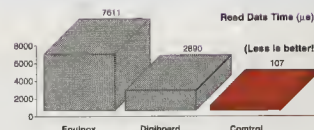
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ROCKETPORT
MultiPort Serial Boards

eral dialup in your area, look for something else. Why plow old ground?

Here's something with NO startup costs. Why don't you contact the existing ISPs and offer to affiliate with them on the customer service issue. They can offer a service for a one-time fee of \$45 where a person will come out to a subscriber's house, install the software, configure the connection, and show them how to do the basic web surf/e-mail thing. You will actually perform the service for \$30 a pop. Not only is it not bad money if you can knock out two or three an evening, but you'll learn a lot about dealing with customers, what new people face in dealing with technology, and probably learn a lot about the ISP side of the business as well.

But whatever you do, I would urge you to focus on learning how to deal with people, rather than computers. The hardware and technology is fun, but it changes year to year and it really isn't very difficult for a person of even average intelligence to pick up - all protestations of technoids that it is somehow "magic" aside. Repeatedly, I'm finding the winners are those who can deal with people, put together creative win/win/win packages that make sense, and pursue them with a bit of tenacity.

There are probably 200 million people in this country that would ALL be a great success if they only had \$85,000 to start with - at least until the \$85,000 runs out. Success does usually cause some money, that's how you can tell you're winning. But money doesn't necessarily cause success. It is the grease, and it is an excellent tally sheet. But it really isn't much else. I started **Boardwatch** on \$80, and probably still have \$35 or so of that left around here somewhere. IDEAS + WORK = SUCCESS. Money is the scat left in the trail of it.

Good luck in Wisconsin

Jack Rickard

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QUARTERLY ISP DIRECTORY

Jack, I own a copy of the Summer 1996 directory, and I see that the cover says in fine print: "Retailer please display until September 17, 1996." I haven't been able to find a newsdealer who has a Fall edition of the Directory. Is there a Fall edition, or isn't it out yet?

By the way, I do technical support for a ISP in the Boston area, and I find your descrip-

tions of the national backbone operators quite fascinating. I've never seen a coherent explanation of the structure of the Internet backbone anywhere before.

Yes, I'm still a loyal subscriber to **Boardwatch**. You folks provide a different perspective on the Internet from just about anyone else who's writing about it. Keep it coming, and keep it opinionated!

Bob Leigh
bobleigh@world.std.com

Bob:

We are running a bit late with the fall issue. I would rather think it will be available November 15th in any event. It may be obvious then why we ran a bit over on our timeline.

I rather entertain myself of an evening with the thought that we're gaining some perspective on the Internet unavailable anywhere else. That pleasant thought would rather justify all this work. Essentially everything I hear or read about the Internet appears to be based on fifth-hand rumor or "it just makes sense" guesswork and I get the uneasy feeling that a tremendous number of people are making some very expensive deployments of resource based on these often euphoric, probably even well intentioned, misprognostications.

While it's not my place to correct every shrill voice that utters the "I" word, some questions do come up that beg answers. What IS happening with Internet Service Providers - growth or consolidation? Why does the network seem so slow at times? Is it really breaking down and if so where? If such answers are obtainable using a bit of first-hand in-your-face digging through the dirty piles of actual data in realityville, it might be worthwhile finding out.

Thanks for the note.

Jack Rickard

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FILTERING UNWANTED EMAIL

Hello Jack,

Thanks for a great magazine! Often I read the "Letters to the Editor" and find answers to questions posed to you. You sort of fill the users "wish list" in terms of things they want to know. Well If memory serves me correctly you wished or was looking for the following:

1) An Internet Access Provider that used the Microsoft Front Page Extensions 2) A service that would sort of "spit out" those unwanted "bulk" email ads (from last issue).

Ohhhh Jack! Here's YOUR wish list answers:

1) The company ADGRAFIX (<http://www.adgrafix.com>) does in fact use the Microsoft Front Page Extensions and you can create your pages and upload them to boot! I'm just joined at <http://www.adgrafix.com/info/mholmansr>.

2) There's on company on the Compu-serve Service (I know, right now it's CIS specific, but who knows what they'll do if asked or it may be in the making) that has a navigator that will "spit" out any unwanted email address. It will with its EXCLUDE LIST, "spit out" the complete email address or anything@that.dum.mys.domain.com! All you need to do is GO OZWIN. The Ozwin program will do that for all your Junk Email as well as handle your navigation on the service pretty nicely. Reminds me of the twit filters of some BBS packages/Add-on such those I use like WildCat BBS and the WildMail tosser.

Holman's World
webmaster@holmans-world.com

Holman:

Thanks for the timely contribution to our "spam issue!"

David Hakala

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SPAM-FREE ISP NETWORK

Jack,

I've been an avid reader of **Boardwatch** for three years. It's rare to see any magazine so enlightening, and in the internet publishing business nothing else even comes close. Now that I've got the brown-nosing out of the way, could you publish my blurb? My real point here deals with a possible solution to the spamming problem.

Just about anyone with an e-mail address has noticed an increasing number of junk e-mail messages. The most serious offender I've encountered is something known as "Businesslink." This unsolicited e-mail "newsletter"—really just a collection of ads—claims to have an autoresponder that will drop me

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— with 48 True Digital Modems	\$16,858



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Web: www.livingston.com

from their list if I return a blank message with the appropriate string in the subject header. I tried this a couple of times, then stopped when I realized that my responses not only did not cause me to be dropped from their list, but seemed to encourage even more messages. My index finger is getting sore from deleting spam—and what we're seeing now is just the tip of the iceberg.

Spamming is more than a nuisance—it poses a serious, though indirect, threat to our First Amendment rights. It's just a matter of time before some Congressman, P.A.C., or lobbyist sees an anti-spamming campaign as a new angle in controlling what we say. Junk FAX's were a precursor to spamming. As a result, the State of California, where I live, has a law prohibiting unsolicited FAX's. A federal anti-spamming campaign could lead to a variation of the CDA that might stand up in court. Unless ISP's organize to control this problem, the federal government will do it for us.

Let me offer the following suggestion, which is really just a straw-man, not a concrete proposal. A grass-roots network of ISP's would distribute a periodic list of offending addresses from which all mail would go directly into the bit bucket. In order to remain a member of this network—and be certified as "spam-free"—an ISP would be required to block offending addresses on the list. By blocking entire domains, the owner of a domain name could be held accountable for its use.

Of course, implementation isn't as simple as I make it seem. The word SPAM needs to be clearly defined. Software needs to be written. A grass-roots network of ISP's needs to be built. There are dangers as well. Dropping e-mail can have anti-competitive implications, as Sprint has shown us.

But this suggestion could serve as a starting point for bringing the spam problem under control and thereby keeping the government off our backs.

Whaddya think?

Mark Valentine
sysop@sleuth.com

Mark:

Yes, that's excellent brown beak and you're in.

I concur that SPAM is sufficiently annoying and damaging that we essentially

devoted our December issue to the topic. We're now seeing businesses devoted to spamming as a service, and software that allows anyone to spew forth e-mail by the hundredweight. For some, apparently it even works and so it has sufficient energy to grow and thrive to the annoyance of anyone with an e-mail box.

The grass roots network of ISPs who all agree to blacklist individuals for spamming has several probably fatal flaws. First, no one can agree on a cogent definition of spam. SPAM is rather in the eye of the beholder and I would use the analogy of direct mail catalogs by way of example. Everyone is tired of receiving direct mail catalogs in the regular street mail and something should be done about it. That said, anyone delaying delivery of my LL Bean, Sharper Image, or Brookstone catalog here in the office will be dealt with severely. You see I LIKE those catalogs. It's the panythose catalogs that annoy me. One man's SPAM is another man's treasure.

Secondly, there was a discussion in one of the ISP mailing lists on just such a proposal. The ink hadn't quite dried on the e-mail before I got two private messages from ISPs that were considering catering to spammers as a market niche in response. If ISPs conspire to deny service to specific companies based on SPAM, they not only face some potential anti-trust and collusion legal difficulties, but any one among their midst might see it as a new market niche and opportunity.

Worse, there are TWO parties involved in an e-mail transaction. If you block the spammer's e-mail to MY e-mail box, you had better be utterly certain that I agreed with your definition of SPAM and that is almost impossibly unlikely. If LL Bean sends an e-mail message to my mailbox and you blocked it, the least that could happen is that you've lost me as a customer. But I'm unlikely to let it lie there. The Electronic Communications Privacy Act has rather detailed your responsibilities as a carrier of electronic mail, and simply sending e-mail addressed to me to the "bit bucket" isn't quite how it's worded. Our first conversation on the topic would likely be at the first deposition you attend under subpoena.

I am not unsympathetic to the problem. Indeed, you have no idea how bad it gets. There are numerous "lists" now circulating of e-mail addresses of journalists in the media and probably three dozen "public relations firms" now that

are nothing more than e-mail spam services to "get your message to the press." If you have imagined your position as ISP has left you a little swamped in this detritus, a day in publishing will disabuse you of this notion. We've had e-mail boxes at Boardwatch rendered very nearly useless by these despite the fact that we're pretty good at sorting, filtering, routing, and so forth.

Since spam is somewhat in the eye of the beholder, I've rather advocated that control of spam likewise reside there. This points to more powerful filtering and sorting tools. But despite talking of these for many years, most e-mail packages are woefully deficient in these. Microsoft's Internet Mail has a sorter/filter that I am probably happier with than anything I've tried previously. But for most of us, the tools are weak and more painful to deal with in their Boolean technobabble than simply deleting the offending mail forever. I would like to see an E-mail package with a simple button on it that I can click for any particular message to indicate I don't want any more of THAT in my e-mail box. This would perhaps call up a dialog box where I could further highlight the sender, if I didn't want any more mail from that person, or the subject, if I didn't want any more mail on that topic, or on some definitive text, if I didn't want any more messages with that text. A fuzzy slider might be nice to make this request more literal or more loose (I don't want any e-mail that talks in any fashion about "making money" or "AB rollers") or that on the more literal side I don't want any e-mail with the words "PRESS RELEASE" in them anywhere.

That the messages still transit and are deleted at my desktop machine doesn't annoy me terribly. Yes, we all in theory pay a penny per pixel for everything, but I don't invest a lot of credibility in that argument. It's a public net and when you go out in public you pay the price. Otherwise stay home. But I do want control of what I have to sort through manually. Ultimately, I think such software tools in the hands of end-users would make SPAM decreasingly effective. At the point where it simply doesn't work anymore, it will quite go away.

Jack Rickard

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NORTEL, SHIVA WIN DIALUP SWITCH SHOOTOUT

DataComm Magazine chose the Shiva Lanrover Access Switch and its OEM twin, the Nortel Rapport Dialup Switch Model 112, over remote access servers from Ascend, Bay Networks, Shiva, 3Com and US Robotics in tests conducted at National Software Testing Laboratories, Inc. The switch supports a maximum of 112 simultaneous users. It can support as many as five T1, E1 or ISDN PRI to a maximum of 48 analog modems and 64 ISDN B-channels. Supported dialup protocols include PPP, Multilink PPP, IP, IPX, ARAP and NetBEUI. LAN protocols include TCP/IP, IPX and Appletalk. The basic \$31,000 setup supports up to 24 analog DS-0 or 23 ISDN B channels. For details of the test, see http://www.data.com/lab_tests/remote?servers.html. For info on the DS 112 and other Nortel products, see <http://www.nortel.com>; voice (800) 328-6760. Shiva Corp. and its Lanrover products can be found at <http://www.shiva.com>; voice (800)977-4482 or (508)788-3061.

SEARCH ENGINE FOR COMPUTER SHOPPERS

Hardware and software stores abound on the Web; now there's a one-stop page where you can check all the prices from dozens of Web stores with one search. Computer ESP at <http://www.usvision.com> lets you browse by product category, specific model or vendor name. Search results include online retailers, their prices, availability and links to their Web sites. It pays to shop; we checked a specific ISDN terminal adapter and got over a dozen prices ranging from \$331 to \$449. Computer ESP boasts over 250,000 prices on 65,000 different products. To get your Web store and its products listed for free, visit <http://www.uvision.com/partner/partner.html>.

HISTORICAL COMPUTERS

In less than twenty years personal computers have moved from tiny kit devices with little more than a calculator chip to

hugely capable desktop multimedia machines. Inevitably, the nostalgia buffs have arrived to collect, catalog, and treasure early machines such as the IMSAI, Osborne, PET, KIM-1, and other early machines. Now there is a group titled the Historical Computer Society to harbor these collectors of microperiphia/trivia of yesteryear. They even have a quarterly magazine titled **Classic Computing** at \$14 per year. Historical Computer Society, 3649 Herschel Street, Jacksonville, FL 32205; Contact: David Greelish, President and Founder, (904) 384-1305 voice; <mailto:historical@aol.com>; <http://www.cyberstreet.com/hcs/hcs.htm>

SDS EXPRESS PRINTS CHECKS

Secure Document Systems has released a program that can print negotiable checks on your laser printer using a MICR (Magnetic Ink Character Recognition) toner cartridge. The company also supplies paperware with watermarks and other security features. This checkwriting software works with common accounting packages such as Quicken, Quickbooks, Peachtree, MYOB, One Write Plus, DAC Easy, and Microsoft Money. Demo software (crippled) is available from <http://www.securedoc.com>. The company is also working on a payroll service to operate over the Internet. Secure Document Systems, 9485 Regency Square Blvd., Jacksonville, FL 32225; (904)725-2505 voice; (904)725-8836 fax

INDUSTRIAL COMPUTER AND COMMUNICATION SOURCE BOOK

Interesting 66 page catalog of Ethernet cards, hubs, adapters, Cisco routers, management software, etc. Industrial Computer Source, PO Box 910557, San Diego, CA 92191; (619)677-0877 x3241; <http://www.industry.net/indcompsrc>; <mailto://industrial.computers@industry.net>

THAILAND TRADE DATABASE ON THE WEB

Over 20,000 companies in 1,000 categories, a hotel and restaurant guide, business news and government index,

Thailand trade show calendar and even a list of golf courses make this country-specific search engine a great tool for international traders. See <http://207.158.204.20> - who wants to wait for a DNS lookup to Thailand, anyway?

SPRINT AND BLOCKBUSTER VIDEO TEAM UP

Blockbuster Video and Sprint have joined forces to get the last VCR addict connected to the Internet. Blockbuster will offer its video rental customers 1.5 million free CD-ROMs containing Netscape Navigator and Sprint's dial-up Internet access software, priced at \$19.95/month unlimited usage or \$1.50 per hour with no minimum payment. Who needs a spot on Windows 95 when there's a Blockbuster store within 4 miles of 80 percent of the U. S. population? If that's too far to walk or you want floppy diskettes, call (800)377-8300. More details on the Sprint/Blockbuster partnership are at <http://www.sprint.com/sprint/press/releases/9611/9611070316.html>.

UUNET, CABLE & WIRELESS START 10 GBPS TRANSATLANTIC PIPE

UUNET, a subsidiary of MFS Communications, and Cable & Wireless Co. have begun construction of a transatlantic cable system that will support 10 Gigabit-per-second traffic when completed in about 15 months. UUNET's transatlantic pipe will expand to 90 Mbps by this Christmas, from the current 10 Mbps. The new 10 Gbps pipe will connect New York to London and will cost \$500 million. MFS Communications: (402)231-3000 voice, <http://www.mfs.net>. Cable & Wireless Co.:

LINUX RESOURCE WEB SITE

The freeware Linux operating system is extremely popular, but it's not always easy to get support when you need it. Many companies and individuals provide commercial support for Linux, and the Linux Consultants HOWTO guide lists over 100 of them. It can be downloaded from <http://www.sypher.com/tbm/Consultants-HOWTO>. Michael Michlmayr, PR manager for Linux International, a nonprofit organization promoting Linux throughout the world, maintains the resource guide. ♦



TECHNOLOGY FRONT

by Jim Thompson
Western News Service

ROLLING YOUR OWN — SOFTWARE TO MAKE YOUR CD-R SING

As the demand for reliable storage space and access to information both locally and on Internet/WWW sites increases, the idea of recording your own CD-ROMs becomes more desirable. If you couple this desirability with the fact that a properly recorded CD can be accessed on virtually any Operating System and that the cost of CD Recorders (CD-Rs) are dropping daily, making your own CDs becomes a practical solution to a myriad of problems. The falling prices of CD-Rs may be the strongest factor in convincing you to consider this medium. When they were first introduced about six years ago, CD-Rs carried a sticker price of \$25,000. By the beginning of 1996 the same drives were under \$2,000. By early 1997, you should be able to buy a CD-R for under \$500.

This month, I will look at two CD-R software packages and explore the ins and outs of recording a CD.

HOW THEY WORK

Although they vary greatly in price and features, all CD-R drives work in basically the same manner. Information is written to blank CDs which can hold up to 650-MB of data or about 74 minutes of audio material. The disks consists of a reflective layer of gold and a layer of organic dye. A laser in the CD-R transfers data onto the disk in a series of pits through a process that melts the green-colored dye layer at the correct locations — a process known as "burning." The result is a CD that can be played on any standard CD-ROM drive. This is the basic process, but there is, of course, a lot more to it.

One key thing to keep in mind is that CD recording is a real-time operation. The recording laser inscribes pits into the surface of the CD at a steady speed. In order to insure an accurate transfer, this process (and the speed of the recording) cannot be altered or interrupted. This speed depends on the physical format in which the data is written, and on the writing speed. To write CD-ROM data at 1x speed your system must be capable of sustaining a transfer rate of 150 kilobytes per second. At 2x, 300 kilobytes per second. At 4x, 600 kilobytes per second. To write audio data, the required transfer rate is even higher: at 1x speed 172 kb/sec, at 2x 344 kb/sec, at 4x 688 kb/sec.

VARIABLES MAKE THE DIFFERENCE

The success (or failure) of a CD recording is dependent on a number of factors. These include the system on which the recorder is run and the type and amount of data that is being written.

The total amount of data being written is not as important as whether you are transferring a few

large files or many small files. If the data contains many small files the system may have trouble locating and opening the files quickly enough to send them smoothly to the CD recorder.

CD RECORDING TIP

While doing tests, I also found that any interruption will ruin a CD recording. This means that you should disable any screen savers, alarms, incoming modem calls or faxes, timed events or any other TSRs. You also need to turn off any network sharing of the drive which is supplying the data.

Another key factor is your hard drive. You need a fast hard disk which has recently been defragmented. These are major factors especially when writing to the disc on-the-fly.

The recording speed of the CD-R is also a factor in creating discs. Many CD recorders are capable of writing at two times, four times or even six times the standard writing/playback speed of 150 kb (75 sectors) per second. Of course, the faster the speed the quicker you can create a CD-ROM (it has nothing to do with how fast it is read back.)

WRITING METHODS

There are two ways of writing CDs. You can write from an image or from a file list or virtual image (on-the-fly writing). According to Adaptec, "When you write a real ISO image from hard disk to CD, speed is rarely a problem because the image is already one gigantic file in which the files and structures are already in order, so it is only necessary to stream off the data to the recorder.

"When you write from a File List or virtual image, things get trickier. In order to write to a CD on-the-fly, the software must consult its database to learn where each file is stored on hard disk, and where it should go on CD. It must then locate and open each file, while sending data in a smooth, continuous stream to the recorder. Finding and opening files is often the more time-consuming part of the process, this is why writing on-the-fly is more difficult when you have many small files and/or your hard disk is badly fragmented."

The recorder's buffer memory is another critical factor in making CDs. As data is moved from your hard disk to the CD, some is stored in the recorder's memory buffer. This is done to maintain a steady flow of data to the laser. According to Adaptec, "The size of the buffer is critical to trouble-free writing: a slowdown or interruption in the transfer of data from the computer will not stop the writing so long as the buffer is not completely emptied. The larger the

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buffer, the more safety margin you have in case of interruptions. If your CD recorder has a very small buffer and your hard disk is slow, you may find it difficult to write on-the-fly to CD, particularly at higher speeds.

"Your options are: record at a lower speed; make a real ISO image on hard disk and record from that; use a faster hard disk; or, if possible, increase your recorder's buffer size."

THE MESSAGE IS THE MEDIUM

The medium you use is also important in the creation of a CD. Not all blank CD discs will work properly with all CD-Rs. Some discs work better with certain recorders than do other discs. For high speed recording (4x and 6x) be sure to use only discs certified for high-speed recording. You might want to contact the manufacturer of your CD recorder to see if they recommend any specific brands of CD discs.

Also, "Kodak Photo CD discs are designed to be used only with Kodak Photo CD professional workstations. These discs have a protection bit which prevents them from being written on many CD recorders (you will get an error message if you try). Other special-purpose discs are now becoming available which also have a protection bit."

FILE NAMING SYSTEMS

One other factor that you discover when making CDs is that, if you are making a CD for distribution, you may have to rename most of your files before transferring them to CD. When it comes to CDs, there are three basic types of file naming systems:

ISO 9660 Level 1-compliant: DOS names (8+3, restricted character set)

Joliet: DOS (8+3), Windows 95 (up to 64 characters),

Romeo: Windows 95 long filenames only, up to 128 characters. If you want to distribute your CD to the widest possible audience, you will probably want to use the ISO-9660 Level 1-compliant DOS names system.

ISO-9660 discs can be accessed on most platforms, including DOS, OS/2, Windows, UNIX and Macintosh. Because of this, the ISO-9660 standard enforces certain naming conventions. Names can include only uppercase characters from A to Z, digits from 0 to 9, and the underscore. The file names may not exceed eight prefix characters or three extension characters (8+3). Only one "." character per filename is allowed and must be used to separate the prefix and the extension (FILE_01.TXT, FILE_02 .TXT, etc.). The ISO-9660 standard also limits the number of subdirectory levels to eight.

Adaptec also offers this caveat: "In ISO 9660, all directory entries of files must contain the file name followed by a semicolon and the file version number, i. e., ;1. Most systems automatically remove these two characters from the filename when accessing a file or displaying a directory, but versions of the Macintosh operating system prior to 7.5 did not. The result is that when you look at an ISO 9660 disc on a Macintosh with System 7.0 or earlier, all the filenames appear as "FILENAME;1".

This could cause problems with an application that must run from CD on the Macintosh: if your application looks for a file named "MYFILE.TXT," it will only find a file named "MYFILE.TXT;1."

The Joliet system is an extension of the ISO 9660 standard, developed by Microsoft for Windows 95, to allow CDs to be recorded using long filenames (it also allows for using the Unicode international character set). For files recorded to CD, Joliet allows you to use filenames up to 64 characters in

length, including spaces. Joliet also records the associated DOS-standard name for each file so that the disc may be read on DOS systems or earlier versions of Windows.

Adaptec warns that versions of Windows NT up to 3.51 build 1057 do NOT read the long filenames on Joliet discs. NT 4.0 does support Joliet; contact Microsoft for more information.

"Romeo allows you to write to disc filenames up to 128 characters long, including spaces. This is not part of the Joliet standard, and the Unicode character set is not supported. If read under DOS or Windows 3.1, file and directory names will appear truncated to 8+3. (However, if two or more filenames become identical when truncated, you will probably be able to see only the first.) Romeo long filenames can be read on Windows 95 and NT 3.51 systems. Romeo discs can be read on Macintosh systems if the filenames are not longer than 31 characters."

ADAPTEC CD CREATOR 2.0

This excellent software package is shipped on a CD-ROM along with a number of other programs and utilities. The disc includes versions of the software for Windows 3.X, Windows95, Windows NT and Macintosh.

This easy-to-use package provides a drag-and-drop environment for choosing the files that will be included on your CD. With CD Creator, you create a Layout which will be used to make the CD. This layout can be used for creating a CD "on-the-fly" or for creating an image on disk that will then be transferred to the CD.

After you have decided on what will be included in your layout, all you need to do is drag the files from the source application or from the Windows File Manager and drop them into CD Creator. You can also select files from within CD Creator via an "Add Items" function in the interface. To delete an item from the layout, just highlight the files or directories, then press delete. You can also easily copy, move and rename files from within the program.

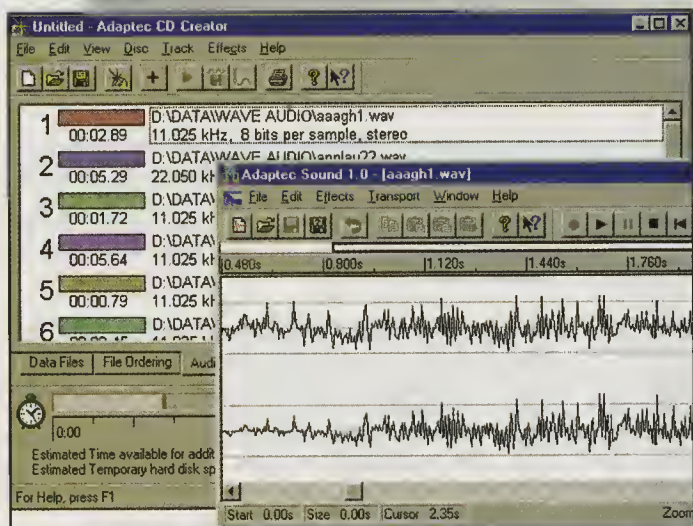
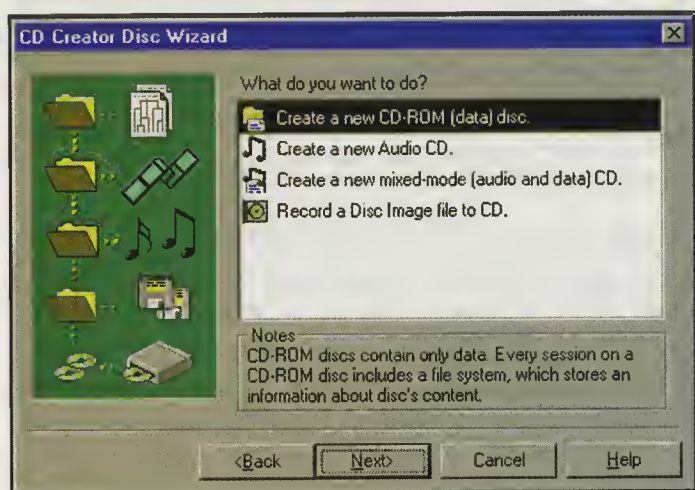
If even this simple process seems difficult, you can elect to use the Wizards to guide you through the process of creating a CD. Using a Wizard takes all the guess work and problems out of creating a CD.

Three kinds of discs can be produced with CD Creator: Video (Burn video to disc that can be played on any video CD player), Photo CD Images (allows you to create your own digital photo album) and CD Extra(allows you to save data and audio to the same disc, and be able to safely play it on your audio CD-ROM player).

With the PCD (Photo CD) Creator you can generate a database with thumbnail photos, descriptions and thumbnail images. Images can be viewed as thumbnails or full screen. The VCD (Video CD) Creator allows you to select videos and still photos from various sources, create the menuing structure and produce a video CD that can be played on any consumer video CD player. Video clips can be represented by any frame within the video clip and playback is simulated prior to creating a CD. Wizards for both PCD and VCD Creators make everything simple.

One of the best features is the ability to "simulate" a CD recording session. This allows you to test for any errors before actually burning the CD. With this feature enabled, the recorder's laser isn't turned on to full power so nothing is recorded to disc. However, any problems are identified allowing you to resolve conflicts and difficulties before making the CD.

CD Creator also contains a Disc Optimizer that works in the background to calculate file system requirements, the number of tracks required on the CD-R disc and other critical functions.



Adaptec CD Creator features drag-n-drop simplicity and sound editing tools

CD Creator supports two types of multisession formats: incremental and multivolume. To read a multisession disc, your CD-ROM drive must support multisession format. You can view only files in the current session on a multisession disc unless you are using software designed for such viewing and access. The incremental multisession format is useful for appending information to previous sessions. This is great for backups and for keeping your CD up-to-date. The multivolume format is good for recording distinct sets of information since each session is independent from the other sets.

CD Creator 2 has a built-in Sound Editor that gives you a wide range of control. Included are sound effects, (amplify, echo, fade and flange are just some of the 32 bit sound effects you can add to your audio tracks), sound tools (including a graphic equalizer and pop removal function). You will also find a Music Database which provides a central location for storing information about source discs. As with data, you first create a layout when making an audio CD.

One of the features I like best is CD Creator's Jewel Case Editor which allows you to create disc labels and jewel case inserts. The Jewel Case Editor has three views: Jewel Front, Jewel Back, and Disc Printer. The Disc Printer allows you to create customized labels for your CDs. There is also a Zoom tool to get a better view of your finished product and an arrange menu for making everything fit as you want.

Along with the CD creator software, the package also includes 100 Professional Photos, CD Duplicator for duplicating existing CDs, session selector for accessing a session from a multi-session and/or multivolume disc and Xing Software. This includes XingMPEG Player and XingMPEG Encoder which compresses large video files on-the-fly.

In June, 1996 Adaptec, Inc. purchased the Corel CD Creator software program and PD optical recording technology "in a \$12 million (US) cash transaction." Older packages may still carry the Corel Name.

When creating a CD, CD Creator provides an attractive and informative display. This includes a status screen showing the number of tracks and files that are to be written, the number of tracks and files that are actually written. A visual display of the amount of data being written to the disk is also displayed.

It took 30 minutes to write 500-MB of data to a CD with Adaptec CD Creator. (NOTE: All tests done on a Yamaha CD-R-100 recorder)

Recognizing a good thing when they see it, Adaptec, Inc. purchased Easy-CD Pro for Windows95 from Incat Systems Software USA, Inc. in July, 1995. I reviewed Easy-CD in the April, 1995, issue of *Boardwatch*.

CDR PUBLISHER HYCD

This package from Creative Digital Research, Inc. is one of the most versatile currently available. Not only does it sport a functional interface, it can integrate ISO-9660 (PC - Level 1, 2 and 3), Joliet (Windows95 and WindowsNT 4.0), HSF (Macintosh), Rock Ridge (UNIX) and native UNIX (UFS, EFS, etc.) file formats on a single CD-ROM.

Moving data is easy thanks to what Creative Digital Research calls its "Integrated File Exchange Environment." "CDR Publisher supports the most popular file exchange environments existing on PC, Mac, and UNIX systems. The PC version accepts Macintosh files recorded on PC Exchange disks. The Macintosh version accepts PC files recorded on PC Exchange disks. UNIX versions accept files recorded in CAP format (Columbia AppleTalk for UNIX format)."

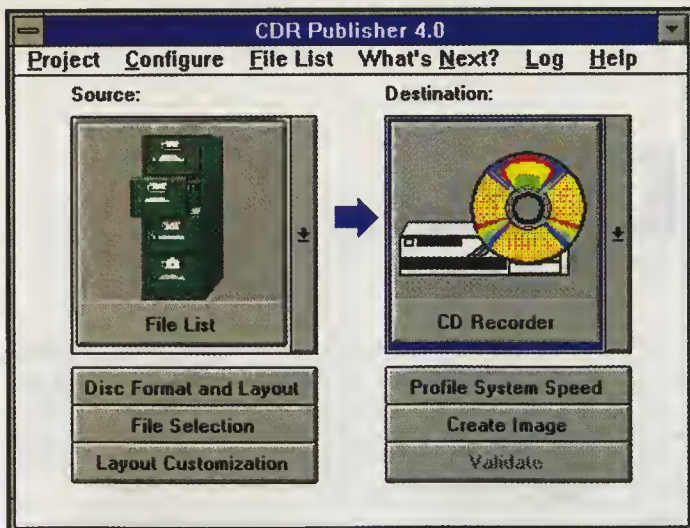
Best of all, you can create any combination of these formats without the need for additional hardware. With CDR Publisher HyCD, you could, for example, create a hybrid CD-ROM containing Macintosh and UNIX file systems on a PC without the need for a Macintosh or Unix computer.

Every current CD format is supported, including CD-ROM, CD-ROM XA, CD-DA (audio), CD-I, bootable CD, enhanced CD and CD Plus. The basics for creating a Video-CD 2.0 disk are also included and multisession CDs can be created.

The program provides "Intel-Mac-RISC Processor compatibility." Also, "CDR Publisher runs on major computer systems supporting the user on Intel-based PC computers and clones running Microsoft Windows, Macintosh and Power Mac Systems, and RISC processor-based computers from SUN, AXIL and Silicon Graphics. This ensures support on most of the major computer platforms."

Further, CDR Publisher offers network support so you can access data across a multi-platform network. For example, you may have a network composed of several PCs, a Macintosh, SUN, HP, SGI, or Digital VAX workstations. In this environment, you could create a CD-ROM on the PC with data from an IBM main frame or VAX station.

CDR Publisher supports on-the-fly recording, testing via a simulated session, transfer speed testing and file placement optimization.



CDR Publish Reads/Writes Windows, Mac & Unix Files

CDR Publisher can also read and write from most major SCSI-based devices. It can read from prerecorded CDs, DAT drives, virtual and physical image files and individual track files. It can write to CD recorders, DAT drives, image files, track files and virtual disks.

Crating a disk is very easy — just scroll through a pick list of the various devices to determine your source and destination devices, select the disk format and layout, list the files or tracks to be copied via a drag-and-drop process, then click on the button labeled “create image.” If you need help, a “what’s next” helper guides you through the steps via an arrow that points to the next procedure.

The program “records all configurations, parameters and lists during a session. This enables the user to easily store and retrieve any customization and optimization of functions the software product supports. Each instance of the customization is recorded as a project. Each version of a CD-ROM can be managed by a project allowing one to keep track of multiple versions of different CD-ROMs.”

It also directly controls the writer directly using a multi-buffered I/O system to help speed the data transfer throughput. The result is that there are fewer chances of the CD you create being corrupted or unusable.

I did experience problems when trying to write directly from a file list to a CD (on-the-fly recording) at 4x speed, but was successful at both 1x and 2x speeds. George and Jacob in the Creative Digital Research technical department were extremely helpful in sorting all this out. At first, I had problems writing directly to CD even at the 2x speed. George was very concerned and looked into the problem immediately. Within a day he had identified and solved the problem, even though this meant writing new code. Although I never could get my system to write at the 4x speed, George managed to squeeze out every bit of performance. The result was that it took only 37 minutes to burn a 500-MB CD at the 2x speed. Depending on your system configuration and its optimization, you may very well be able to write at the full 4x speed, which should cut the write time nearly in half (approximately 20 minutes for a 500-MB).

I was able to burn the CD directly from an Image File at 4X, however the result was only a small gain in overall speed from the 1x speed and the need for a large amount of disk space for the image file. In this case, I had to first create the image file,

which, for the 500-MB file, took 45 minutes. I then had to copy the image file to CD — a process that took an additional 18 minutes. Total time for burning the CD via an image file was one hour and 3 minutes or 12 minutes less than the direct write at 1x speed and 26 minutes slower than direct write at 2x speed.

(NOTE: In all tests, I was using a Pentium 133-MHZ with 32-MB of RAM)

A demo version of the program is available at no charge from Creative Digital Research Inc.’s Web site (<http://www.cdr1.com>). The demo version is fully functional but is limited to creating images of only 5-MB in size. If you like the program and want the full version, just send a license request via fax or e-mail. Their server generates a password that is immediately e-mailed back (assuming you sent the request via e-mail, fax requests take 24-hours). The password unlocks the program and makes it fully functional.

CONCLUSIONS

Overall, CDR Publisher HyCD offers the most versatility and features. While both packages can produce a CD that is readable by DOS, Windows, Windows95, Macintosh and Unix via the ISO-9660 format, CDR Publisher is the only one that allows you to create and integrate native Macintosh (HSF) and Unix (Rock Ridge) formats. It also offers the most comprehensive list of supported input and output devices. Both of these features are especially important in environments where multi-platform networks are being used.

The one major drawback is its limited CD-R support. Of the 67 CD-Recorders known, only 26 were supported by CD-R Publisher at the time of this writing. Also, it does not include a jewel case editor for creating labels for your CDs. Despite these shortcomings, CDR Publisher is the best choice for the user who needs a sophisticated, full-featured CD-ROM mastering solution.

Both of the programs from Adaptec, Inc. also offer a wealth of features and ease of use. Of the two, the current version (2.0) of Adaptec CD Creator offers many more features and abilities than Easy-CD Pro. It also has a better interface, sells for less money and, at least on my system, was faster than Easy-CD Pro. At the time of this writing, it was clearly the better of the two packages. However, this may not be the case by the time you read this article. As noted, Adaptec, Inc. is releasing a new version (2.0) which promises to bring this product to a par with Adaptec CD Creator.

All packages were stable and created CDs that were readable on other machines and CD drives. They were all also easy to use (although I give the edge here to Adaptec CD Creator because of the Wizards) and easy to install. ♦

<ul style="list-style-type: none"> • ADAPTEC CD CREATOR 2.0 \$249 • Easy-CD PRO for Windows95 \$349 • Adaptec Software Products Group • M/S 110 • 691 S. Milpitas Blvd. • Milpitas, CA 95035 • Tel: (408) 957-4535 • Fax: (408) 957-4554 • http://www.adaptec.com 	<p>CDR Publisher Hy CD \$495</p> <p>Creative Digital Research, Inc. 7291 Coronado Drive San Jose, CA 95129 Tel: (408) 255-0999 http://www.cdr1.com</p>
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CONTACT INFORMATION



BABB'S BOOKMARKS

by Chris Babb

SPAM & ANTI-SPAM PROGRAMS

Chris Babb is a Senior Systems Engineer for Control Masters, Inc., a Systems Integrator located in Downers Grove, IL, where he designs industrial automation software by day. He's a member of the Aquila BBS/Internet Team by night. Chris has worked with Aquila since 1990 and currently handles technical support, Web design and construction, Internet training and various other online and offline duties. In his meager spare time, Chris enjoys music, playing bass guitar, the outdoors and his kitties. You can reach Chris via mailto:chris.babb@aquila.com

One of the great benefits of having an Internet account is the ability to send a message to someone next door or on the other side of the world and get a response in minutes or hours rather than days or weeks. It's the Web and its glitz that initially provoke an interest in getting involved with the Internet, but as time goes by, e-mail becomes the biggest player in most people's Internet routines. The one application that continuously runs both at home and at work is my e-mail program. Even if I have no time for anything else, I read my e-mail virtually within a few moments of receiving it. I can tell from the debate raging on the Internet over junk e-mail that it is as important to most everyone else.

Among the burning questions about junk e-mail are, "Why did I get this message?" and "How did they get my address?" My assignment for this month is to show some of the programs that are being used to get your e-mail address. Fortunately, there are also a few pieces of software that can help get you off these lists and I'll show you those also.

My best advice for someone who is 100% opposed to junk e-mail and who absolutely, positively wants no junk e-mail to disgrace his e-mail program is to cancel your Internet account. This is the only 100% solution available, regardless of whether junk e-mail is regulated or outlawed in the future. If this is a little radical or impracticable for you, then I offer the following, less than 100% solutions.

1. Never write your e-mail address on any hardware or software registration cards.
2. Never give your real e-mail address if requested on a Web page.
3. Leave blank or use a fake address in the "reply-to" address preference of your newsgroup reader, e-mail reader, Web browser, etc.
4. Tell your ISP not to provide or sell your address to anyone else.
5. Ask your friends to refrain from putting your e-mail address in any newsgroup or giving it to anyone else.
6. Never give your e-mail address out over IRC chat or anywhere else that someone may see it.
7. etc.

Unfortunately, the Internet becomes nothing more than a glorified TV using this approach. Since this is not a satisfying solution, junk e-mail is something to be managed, not eliminated.

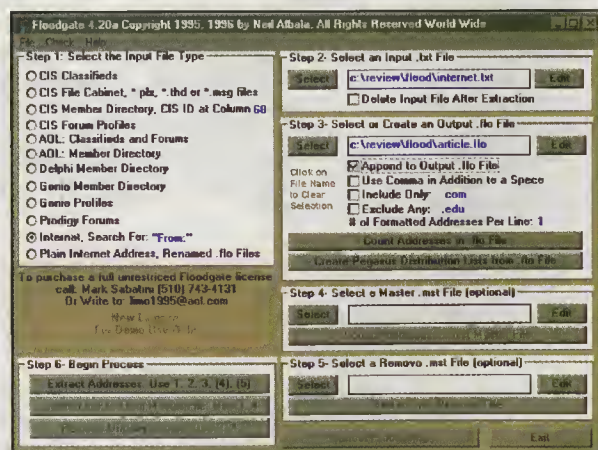
I have a simple and effective way of dealing with junk e-mail. I simply read the subject line of the message.

If I don't understand the subject line (Subject: Suchindizesetrageintrag, an entire message in German), not interested in it (Subject: Sell Athletes Foot Cream And Make Millions In Your Spare Time!), or just don't want to read it (Subject: You Suck!), then I simply trash it. Problem solved.

As far as the debate on who's paying for the message goes, it's pretty easy to agree that both parties (and a few innocent bystanders) are coughing up the cash. But this is not much different from receiving junk snail-mail, which drives up the cost of paper and Postal Service. One difference right now is that there are some regulations on paper junk mail but none on junk e-mail. I anticipate that this will change and I'll be interested in the solution that undoubtedly will create much more debate than the actual problem itself.

Let's get on with it.

Bulk E-Mail Programs



FLOODGATE

<http://www.floodgate.com>

At the time of this writing, Floodgate's site has been visited over 500,000 times. If anyone was wondering how much worse things can get in the junk e-mail department, just take this number into account and be ready to be "flooded" with all kinds of information, requests and bothers on a regular basis (especially you CompuServe subscribers).

This program does not to provide a total platform for bulk e-mailing but it helps you process screen-captured log files that contain e-mail addresses from either the major online services or from Internet newsgroups. This is done by selecting the type of capture file you want to process, specifying the capture file name and

then selecting the name of the output file. The resulting output file will contain a list of all the Internet addresses contained in the capture file. The final step is to paste these addresses into the "To:" field of whatever e-mail program you use, write your message and send it off.

The demo that is available online claims to be a full working demo that will only process CompuServe Classified Ad capture files. It's a fairly simple procedure that is sure to garner several hundred new e-mail addresses for your use. If you don't belong to CompuServe, there is a capture file from the Classified section included with the demo that will show you how this program works. You are also free to try any of the other eleven filters for various online services, using either your own capture files or those included, but be aware that these address lists will not be usable unless you purchase the registered version of the program.

Other features included with Floodgate include the ability to create Pegasus Mail distribution lists from a single click of a button (registered version), an excellent idea that allows you to avoid manually pasting addresses into your message; the ability to maintain a master file of all old and new addresses that you extract and the ability to use a remove file that lists any addresses that need to be eliminated from your pile of suckers... I mean potential customers.

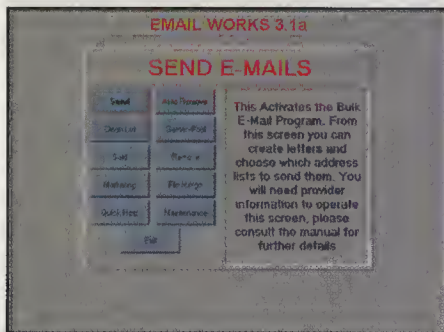
This program is actually quite handy if you want to target the users of major online services for goods, services and information. While Internet newsgroups can also be targeted for address gathering, it would be a fairly time consuming proposition since you would have to save each individual message by hand to an appending capture file.

The Silver version of Floodgate comes with 3 manuals that describe Floodgate and how to effectively use it; it's targeted towards intermediate and advanced Internet users.

The Gold version also contains the manuals and in addition, comes with information on direct marketing techniques, hints and tips along with 100,000 e-mail addresses to get you started. This package is geared towards beginning and intermediate Internet users.

Mailto:limo1995@aol.com
(510)743-4131 or (800)251-9756 in USA
(805)686-1205 outside USA
FloodGate Silver Version - \$349.50
Gold Version - \$495.00

E-MAILWORKS



(no Web site available)

This program contains everything one would need to gather addresses from many sources, create marketing letters, post letters to newsgroups and perform some basic market analysis on the results.

The one tool that makes this program worth the price is its built in ability to scour any newsgroup for e-mail addresses in the headers or the bodies of postings. This allows for some targeted mailings, as you can also filter out specific domain types and include key words from the postings to further refine your search so that only those who fit your marketing letter are extracted.

The Send button takes you to the Bulk Send function where you can select the Data Source (your e-mail address lists), define the number of addresses out of that list to send to, create, select and save marketing letters or simply send a single message. The Clean List button takes you to a panel where you can choose the file you want to extract e-mail addresses from. You can also filter the addresses to eliminate specific domain types such as .GOV or .MIL. The Sold and Marketing buttons work together to help you correlate responses to your mailings. When you sell something based on one of your marketing letters, you can enter the e-mail address of the customer and the address list that it came from. The Marketing function will then produce a summary of letters sent, the number of people who responded and the closing percentage. This is a great tool to help you determine the most effective marketing tactics.

The remaining items facilitate removing addresses from the list (a most important tool), the functions for gathering addresses as described above, address list merge functions and address database repair functions.

The only bad points of this program concern the interface control under Win95, which can become quite annoying. First

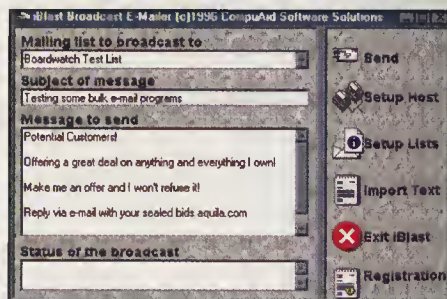
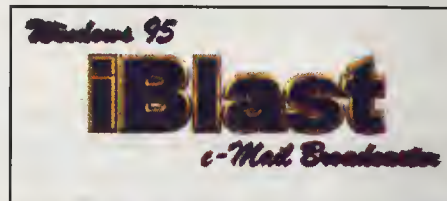
and foremost, if you're running anything larger than 640x480 resolution, the entire screen will be covered by the program background with the application itself in the upper 640x480. This wouldn't be so bad if it didn't always stay on top of whatever else you're running. You must use the CTRL-ESC key combo to get your menu on top or ALT-TAB to switch between applications. There are a few other problems here and there that deviate from the standard Windows GUI and cause more keystrokes than necessary but in consideration of the capabilities of this program, they shouldn't discourage you from checking E-Mailworks out.

Overall, the cream of the crop in bulk e-mail programs.

Mailto:mremail@earthlink.net
(714)825-4815 voice

E-Mailwork 3.1 - \$499.00
Demo available on request

IBLAST E-MAIL BROADCASTER



http://www.compuaid.baremetal.com/iblast.html

iBlast is a simple, easy to use bulk e-mail list manager/sender. Don't let that fool you, though, as this program is actually quite powerful.

Installation is quick and easy through the wizard program. Setup of the mail server information, on the other hand, leaves me wondering why I have to enter both the SMTP server name and its IP address. I was also a little surprised to find that I needed to know the SMTP server port number, although I don't often have to specify port numbers for my Internet software.

The program itself is a single panel window with nothing to hide. All controls

are located on the right and give you the ability to send your messages, set up the host address, manage lists of e-mail addresses, import your e-mail message and the ever important exit button and registration instructions. On the left resides the list selector, message subject and the message to send as well as the current status of the e-mail broadcast.

The program offers a simple and effective way to broadcast a single e-mail message to many users. You can manage as many address lists as you can dream up and drop as many addresses in each list as you want. Unfortunately, this program offers no obvious way to import these addresses, which would be a real time saver.

Fortunately, you can open the list files in any text editor and copy e-mail addresses into the file. The easiest way to do this is to open the **LISTS.TXT** file, add the name of your list, following the example in the file, and save it. Then create a file using that same list name with no extension, add your e-mail addresses in quote marks and save it. Instant bulk e-mail lists.

Over all, this is a nifty program for anyone looking for a simple, effective and inexpensive bulk e-mail product. iBlast would make a good companion program to something like Floodgate that can parse text files into addresses.

Mailto:compuaidd@diac.com
(303)341-0141 voice

iBlast - \$20.00
Demo available

eFILTER

<http://catalog.com/tsw/efilter>

This handy little program cleans spam from your e-mail box, using keywords and sentences you specify to delete all the junk e-mail you happen to get. At the same time, it keeps a log of the sender and subject, not only so you can request to be removed from the offending lists, but so that you can see what keywords are working for you.

The setup is simple and the program takes up only about 60K of disk space. Preferences include your POP3 server, mailbox name and password. You can also specify your main e-mail reader (Pegasus or Eudora) so that once readable e-mail is discovered, your e-mail program's check mail function is per-



formed. A great feature to help automate e-mail activities. Now, if they could only do the same for my snail mailbox.

TSW, Inc.
411-B W. Jefferson St.
Media, PA 19063
(610)566-2252 voice

eFilter 1.0 - \$9.95
Demo available

NutSite Of The Month

Since this issue seems to be devoted to SPAM (in all its meanings), I thought it would be prudent to revisit not only what I consider to be a premium Nutsite, but a site that paints SPAM in a slightly different light.

THE SPAM™ CAM (REVISITED)

<http://www.fright.com/cgi-bin/spamcam>

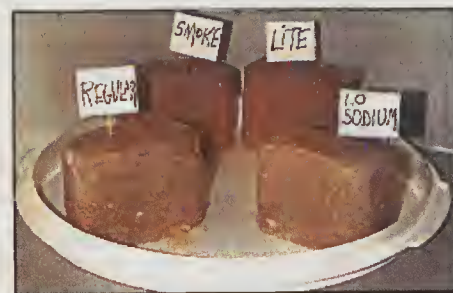
I saw that I got some interesting mail several months ago disputing my views of SPAM™, the lunch meat. Fortunately, it didn't change my mind, and what I said before still goes, save one thing.

SPAM™ is now one of those mysteries that I have had the misfortune to taste. It actually did invoke my gag reflex and I had a wonderful time trying to just get it down. I have even more respect for those who make it a part of their diet. To each his own.

This page still seeks to answer the question, "Is SPAM™ Organic?" I'm still not sure, as I page through photo after photo of SPAM™ decaying into something that should move if you poke it. But then again, decaying SPAM™, sitting along side decaying... *some things*... well, there comes a time when it all starts to look the same. Disgusting.

The tests are still on-going and are as stomach churning as ever. The current test seems to be in celebration of Halloween and features a pumpkin, some pie, something in a bowl and of course, SPAM™. I must say that the SPAM seems to have outlived its neighbors, and with the exception of a few moldy spots (which could always be scraped off), looks to be in pretty good shape — although a little dry.

The previous four tests are archived with some interesting photos and time lapse animation that really puts the SPAM™ question into a different light altogether. I highly suggest watching Experiment #4 as it compares the four different types of SPAM™ on the market. It's a wondrous sight.



There still seems to be a place here for anything that rots and the ability to suggest a rotting experiment is still quite prominent. Be sure to check this site out again.



I have these as well as all of my past articles available for your feverish browsing natures at:

<http://www.aquila.com/babbs.bookmarks/>

Comments, good (preferred) or bad (only if you must) should be clicked off to mail to: chris.babb@aquila.com ♦

Genesys for Worldgroup



Imagine creating a beautiful, 24-bit color multimedia database that will run on your Worldgroup system! Genesys™ for Worldgroup allows you to easily develop robust graphical on-line informational applications and services. With simple GenScript configuration files, you can custom design your own application with embedded

graphics, text files, and sound files, or select one of our turnkey applications like the Product Catalog™, Auto Seller™, Residential Real Estate™, or the Match Maker™. Since Genesys™ supports Windows Interface Protocol (WIP)™, in addition to an ANSI™ interface, your end-users will be able to access your database with a true all Windows interface, and you can still offer your service to non-Windows callers. Whatever information you have to present, Genesys™ for Worldgroup gives you a flexible, powerful canvas on which to offer it.

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- Turnkey applications can place your database on-line immediately
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- Runs stock DBF files from dBASE or FoxPro
- Run multiple database applications simultaneously
- Supports both Windows and ANSI interfaces!
- Simple database configuration from GenScript files
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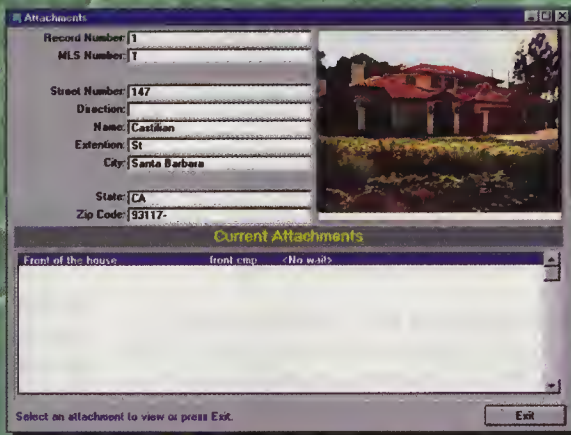
Voice Support: (602) 234-2207

Demo BBS: (602) 222-3000

Telnet: garden.hvs.com

WWW: [http:// WWW.hvs.com](http://WWW.hvs.com)

FTP: <ftp.hvs.com>



Online Multimedia Database



PUBLISHING ON THE WEB by Michael Erwin

Part 24 - More HTML 3.2 Tags

This month I am going to continue to cover the HTML 3.2 standard and the new HTML browser specific extensions. As you will see there are a bunch of new cool HTML extensions. However, many of these extensions work with only specific browsers. I bet you can guess both of them. So before you use these extensions on a public web site, think about how you use them to get the most bang for your buck. Having said that, let's get started.

Last month I ended the column by showing you the following HTML line, and gave you the assignment to figure out what it does.

```
<IMG SRC="boardwatch.gif" OWSRC="simple.gif">
```

If you have not figured it out by now, here is the answer.

The beginning of the line should seem familiar. It tells the browser to insert an image into the HTML document. The image's source is "boardwatch.gif". This could also be a complete URL to an image. Old stuff, right?

The rest of the line - **lowsrce="simple.gif"** - is a new Netscape extension to the image tag. It tells the receiving Netscape browser to display a LOW-resolution image while the main image is loading.

The LOWSRC image should be of low resolution, possibly just composed of black and white pixels. This will make the LOWSRC image much smaller and the browser to receive the image very fast. For example

look at Figure 1. The top GIF image is 14.8kb in size, while the low resolution image is 3.5kb. So the second image is going to be downloaded slightly faster.

Now let me get on a soap box for a second. You probably already see the problem with this strategy. Yep, you will be moving more IP traffic across the Net. Possibly clogging up an already overloaded system. Wouldn't it be nice if Netscape gave the viewing public the option to see only the LOWSRC images? Then low-speed users would have an option between "images" and "no images."

Microsoft went another direction with the IMG tag. Look at this line of HTML code:

```
<IMG SRC="/images/boardwatch.gif" DYNsrc="/avl/bwlogo.avi">
```

In this example, the requesting browser receives the image "boardwatch.gif". However, if the browser is Microsoft's Internet Explorer, it will first load the static image, then display the inline AVI file. You can also use VRML files with this HTML syntax.

Microsoft then goes on to add another attribute to the IMG tag when using the DYNsrc attribute. Look at the following line:

```
<IMG SRC="/images/boardwatch.gif" DYNsrc="/avl/bwlogo.avi" START=FILEOPEN>
```

In this case, we have added the attribute **START**. This new Explorer tag causes the browser to start playing the image every time the file is opened or rendered. The **START** attribute also has another option, **MOUSEOVER**. If **MOUSEOVER** was declared, Explorer will play the DYNsrc file every time the viewer moves the mouse pointer over the image. You can make both declarations in the same tag. It will look something like this:

```
<IMG SRC="/images/boardwatch.gif" DYNsrc="/avl/bwlogo.avi" START=FILEOPEN,MOUSEOVER>
```

If you are using AVI files, then you can also use the attribute **CONTROLS**. If the attribute **CONTROLS** is declared, then the controls of the AVI player are displayed under the AVI images. We can also declare a **LOOP** variable attribute in the HTML statement. This variable attribute will cause Explorer v3.0 to loop through the AVI file X amount of times. So if you declare **LOOP=4**, the browser will play the AVI file 4 times.

The simple IMG tag can now be fairly complex. For example look at the following HTML line and see if you can decode it:



Figure 1: Using low-resolution images as temporary placeholders

Michael lives in Huntington, West Virginia, with his wife Jacqueline and Paxi Baby. (Jackie's Shar-Pei dog.) He has designed, built and administered network systems for over 16 years. Mike has organized and documented his 600-megabyte bag of tricks, tools and voodoo on a CD-ROM entitled, "The WebMaster's Resource." It is available for US\$24.95, plus US\$2.00 shipping in the United States or US\$5.00 elsewhere; send check or money order to 320 36th Street, Huntington WV 25702-1632. Please allow 4-6 weeks for delivery. For more information mailto: mikee@eve.net

```
<IMG WIDTH=320 HEIGHT=200 SRC="/images/boardwatch.gif"
LOW SRC="/images/bwlowr.gif" DYN SRC="/avi/bwlogo.avi"
START=FILE OPEN,MOUSEOVER CONTROLS ISMAP ALT="
[ Animated Board watch Menu ]" ALIGN=RIGHT LOOP=2>
```

Now, I wonder if anyone has an HTML editor that can handle all of that. This isn't your Father's HTML.

THE EMBED TAG

Now you can put browser-supported file types inside of your HTML documents using the new EMBED tag. This applies to browser plugins specifically. Look at the following line:

```
<EMBED SRC="http://uttm.com/vdo/cbs0.vdo">
```

If you have access to a VDOLive server, this line of HTML allows you to EMBED the video inline in a HTML document. Like the IMG element, this tag also has quite a number of attributes that may be used. Look at the following HTML line:

```
<EMBED SRC="http://uttm.com/vdo/cbs0.vdo" AUTOSTART
=TRUE STRETCH=TRUE WIDTH=178 HEIGHT=155 ALIGN=TOP
ALT="You need the VDOLive Plugin.">
```

EMBED seems to have a great potential, however, currently only Netscape supports the HTML element.

Many of the elements in the example above are also used in other HTML elements that we have covered in the past. There is however, one new element: the **STRETCH** attribute. **STRETCH=TRUE** tells the Netscape plugin, that even if the received video does not

have a width of 178 pixels and a height of 155, to stretch the image to the defined image size. This will give you control over how the image will be rendered by the plugin.

Of course, the EMBED tag assumes that you have the VDO Live plugin installed. However, you will notice that if the end user does not have the VDOLive plugin installed, they will get the message declared by the **ALT** attribute.

While we are on the subject of embedding a multimedia file into your web page, let me talk a bit about using **RealAudio** encoded files. This is slightly different from how we did the VDOLive embed.

RealAudio uses a defined MIME type on the web server. So you will need to edit the MIME definition file on your web server to get this to work right. Remember from a few months back our brief introduction to MIME definitions. The MIME definitions tell the server to tell the requesting browser what type of file it is getting ready to receive.

The problem with RealAudio is that you will need to use a multipart process to embed the encoded audio files. The first thing is to encode the audio files into the RealAudio or .RA format. You can download the RealAudio encoder utility from <http://www.realaudio.com>.

To integrate RealAudio into your web pages, you will need to put something like the following HTML code in the web document:

```
<A HREF="/ra/jackwelcome.ram">Click Here</A> for a RealAudio
message from Jack Rickard.
```

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When the user selects on the Hyper link "Click Here," the browser is going to request and receive a text file called **jack welcome.ram**.

This text file will be sent to the helper application **raplayer.exe** if the client's browser has been set up to use the RealAudio player. If the **.RAM MIME** type is set up in the client's browser, the RealAudio player will then read this text file, and the client application will request the audio files that are listed inside of the **.RAM** file from the RealAudio server.

The text file has a simple syntax. For example take a look at the following RealAudio markup code for the player:

```
file:welcome
file:thanks
pnm://www.boardwatch.com/ra/testing.ra
```

This file is stored on the web server as **jackwelcome.ram**. When the browser receives this file, the browser will pass the information to the RealAudio player. The RealAudio player then requests the audio encoded files **welcome.ra** and **thanks.ra**. The RealAudio player will

start playing the encoded audio as soon as the player's buffer is full, not waiting for the entire file to arrive.

Notice the last line in the file **jackwelcome.ram**. That line will actually cause the RealAudio player application to request a RealAudio file from another RealAudio server anywhere on the Web. You can also download a personal version of the RealAudio server at Progressive Network's web site.

Remember that all of these extensions and plugin extensions will require a requesting browser that supports the extensions. So you might want to make versions of your site for each of the big three browsers, LYNX, Netscape and Explorer.

Till next month.....

mikee@eve.net ♦

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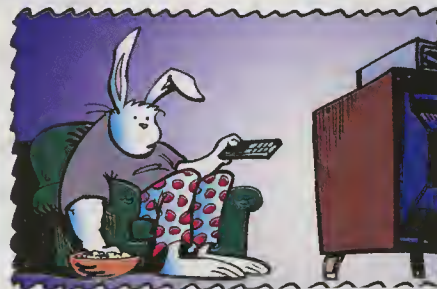
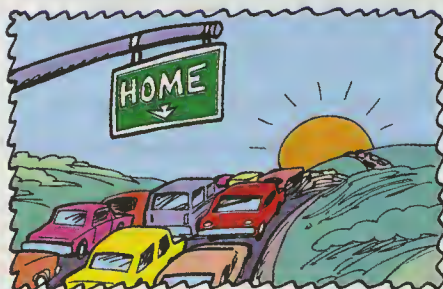
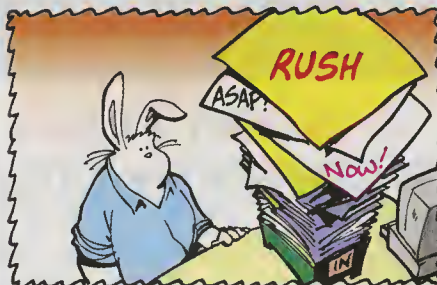
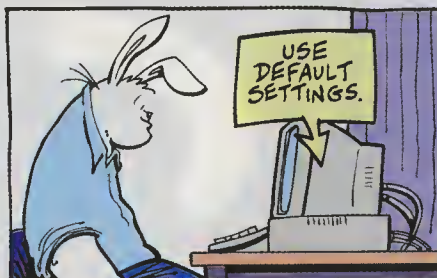


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These are actual logs taken from
a 128K receiving computer.

A portion of a Planet Connect 128K
software reception log.

```
5/21/96 0:36 Received. C:\SAVEALL\PC100K.675
5/21/96 0:37 Received. C:\SAVEALL\PC100K.676
5/21/96 0:39 Received. C:\SAVEALL\PC100K.677
5/21/96 0:40 Received. C:\SAVEALL\PC100K.678
5/21/96 0:41 Received. C:\SAVEALL\PC100K.679
5/21/96 0:42 Received. C:\SAVEALL\PC100K.680
5/21/96 0:43 Received. C:\SAVEALL\PC100K.681
5/21/96 0:44 Received. C:\SAVEALL\PC100K.682
5/21/96 0:45 Received. C:\SAVEALL\PC100K.683
5/21/96 0:46 Received. C:\SAVEALL\PC100K.684
5/21/96 0:46 Received. C:\SAVEALL\PC100K.685
5/21/96 0:48 Received. C:\SAVEALL\PC100K.686
5/21/96 0:49 Received. C:\SAVEALL\PC100K.687
5/21/96 0:51 Received. C:\SAVEALL\PC100K.688
5/21/96 0:53 Received. C:\SAVEALL\PC100K.689
5/21/96 0:54 Received. C:\SAVEALL\PC100K.690
5/21/96 0:55 Received. C:\SAVEALL\PC100K.691
5/21/96 0:56 Received. C:\SAVEALL\PC100K.692
```

The files received above are
shown below after reception.

```
PC100K 675 981867 05-20-96 8:01p
PC100K 676 406475 05-20-96 8:01p
PC100K 677 1605302 05-20-96 8:01p
PC100K 678 998286 05-20-96 8:01p
PC100K 679 969215 05-20-96 8:01p
PC100K 680 843040 05-20-96 8:02p
PC100K 681 519203 05-20-96 8:02p
PC100K 682 469926 05-20-96 8:02p
PC100K 685 356812 05-20-96 8:03p
PC100K 686 1062919 05-20-96 8:03p
PC100K 687 840667 05-20-96 8:03p
PC100K 688 1477211 05-20-96 8:04p
PC100K 689 1530121 05-20-96 8:04p
PC100K 690 547927 05-20-96 8:05p
PC100K 683 1116040 05-20-96 8:03p
PC100K 684 574824 05-20-96 8:03p
PC100K 691 972213 05-20-96 8:05p
PC100K 692 571081 05-20-96 8:05p
21 file(s) 15843129 bytes
168239104 bytes free
```

20 minutes to receive 15,843,129 bytes
equals 792,156 bytes / minute,
47.529 megs / hour
1.140 gigs / day

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WEB SERVERS DISSECTED

by Michael Erwin

PROGRESSIVE NETWORK'S REALAUDIO SERVER

This month I am not going to dissect a web server per se. Instead I will be talking about a web-related server of a different kind.

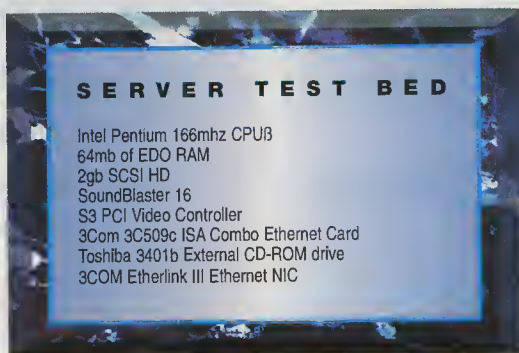
If you read this month's "Publishing on the Web" column, you noticed that I talked about incorporating **RealAudio** inline audio files, not to mention other types of inline multimedia formats. Well, this month we are going to look at **Progressive Network's RealAudio Server**.

Some of the most vibrant and coolest sites on the web use dynamic content, whether it is audio, video or both. The use of this dynamic content can enliven an otherwise bland Website. Up till now, most of you have added either static audio and video files. These static files were stored on your web server, which would be requested by a browser to be retrieved and played by the visitors web browser with the use of a helper application.

For example, many of us use **.WAV** files to provide a multimedia flavor to our site. But a WAV file must be prerecorded and save to disk. By contrast, "live streaming media" techniques generate audio/video information on the fly as an event is happening, enabling live broadcast across the Net as a continuous UDP data stream.

Live streaming audio enables the creation of an online radio station, broadcasting live content to listeners on the Net, not to mention the use of near time broadcasts of news and sporting events, or even Internet talk shows.

RealAudio is the oldest and one of the most accepted commercial streaming audio systems available for the Internet. Currently, there are more than one hundred companies and organizations that use RealAudio to send audio packets around the world.



I still dislike NT, and I hate 95. But since I conceded last month to the fact that Windows NT is not going away, I thought I would try both the Windows NT version and a UNIX version.

OVERVIEW

All methods of providing live streaming audio require you to capture and put that audio content in an encoded digital format. Most of these encoded formats do not differ much from the format that is used to store audio on a Compact Disc.

RealAudio's protocol is called "a bi-directional, timed-based protocol." Basically, this protocol is based on the User Datagram Protocol, or UDP. This means that the protocol does not require the receiving client system to send an acknowledgment packet for each received audio packet. Like many protocols used on the Internet, this protocol is geared towards speed instead of reliability. The loss or dropping of packets is handled by a Progressive Networks' proprietary system that recreates the missing packets of the audio stream.

When a visitor clicks a hyper link to a RealAudio file, the browser helper application automatically launches the client side application to play the RA file. The RealAudio player client application is shown in Figure 1. This application is also available as a plug-in for Netscape's Navigator.

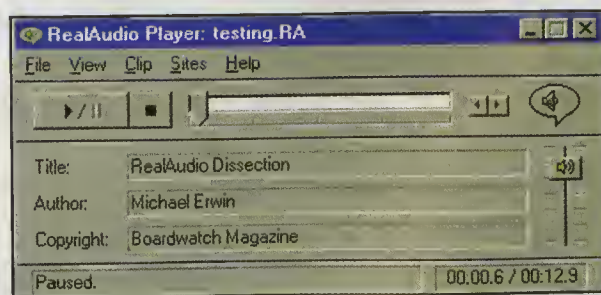


Figure 1: RealAudio Helper App

Of course, to play the encoded RealAudio files, your computer needs to have a sound card installed and configured for your particular operating system.

INSTALLATION

The RealAudio server software works on a variety of Web server platforms and operating systems, including Apple Macintosh OS v7.5x, BSDI v2.x, Digital

Michael lives in Huntington, West Virginia, with his wife Jacqueline and Paxi Baby. (Jackie's Shar-Pei dog.) He has designed, built and administered network systems for over 16 years. Mike has organized and documented his 600-megabyte bag of tricks, tools and voodoo on a CD-ROM entitled, "The WebMaster's Resource." It is available for US\$24.95, plus US\$2.00 shipping in the United States or US\$5.00 elsewhere; send check or money order to 320 36th Street, Huntington WV 25702-1632. Please allow 4-6 weeks for delivery. For more information mailto:mikee@eve.net

UNIX v3.2, FreeBSD v2.x, HP/UX v10.x, IBM AIX v4.x, Linux v1.x, including ELF, Sun Solaris v2.x & SunOS v4.1x, SGI Irix 5.3 or higher, Windows NT and Windows 95.

RealAudio Server also works with a variety of Web servers, including Apache HTTPD, HTTPD4 Macintosh and Mac HTTPD, Microsoft IIS, Netscape, WebSite and WebSTAR for Mac.

I installed two different versions of the RealAudio server. One was for Windows NT/95, and the other was for BSDI v2.1 UNIX. The documentation came in Adobe Acrobat's PDF format.

All I had to do was unzip the NT version with the -d option. This creates all of the needed subdirectories. For the UNIX version, I all needed to do was to un-tar the file.

Well the installation was way too simple, it can't be this easy. There has to be a catch.

CONFIGURATION & ADMINISTRATION

After installing the RealAudio server, I had to start the server manually from the command line. Each platform requires different methods to start the server. On a Windows NT-based system I changed into the top level directory of the RealAudio server. Then I was able to start the RealAudio server by entering:

```
c:\pnserver\bin\pnserv20 server.cfg
```

It took RealAudio server about 11 seconds to start accepting connections. The server does not return any messages to indicate that it has started, and there is no prompt on the screen for as long as it is running.

The server uses the TCP/IP services port 7070. This TCP/IP port is used for accepting requests from clients and for sending the encoded audio data. If you need to change this you will need to manually modify the PnaPort option in the **server.cfg** file.

If you install RealAudio on a UNIX system, the RealAudio installation will modify your **/etc/services** file to define this port.

To install the RealAudio server as a service on NT, you must log on as a user with administrative privileges. After logging in, execute the program **crtsvc.exe** from the directory where the server distribution is located, as follows:

```
crtsvc c:\pnserver\bin\pnserv20.exe c:\pnserver\server.cfg
```

The UNIX version of RealAudio server also runs on the unprivileged port of 7070. So it is not necessary to start the Server as root. However, root privileges are necessary when the RealAudio server needs to configure itself to use additional system resources, as it can when a large number of concurrent connections is expected. If the RealAudio Server is started as root, it changes its user ID after the resource limits are adjusted, and assumes the user and group IDs entered into the text based configuration file.

I also had to edit my startup scripts, so that the RealAudio server is started upon system reboots. The installation should do this automatically.

Now before you think everything is ready, you need to startup the RealAudio encoder. For this to work, you will need to have your sound card configured and working. Look at Figure 2,

which shows a live audio stream being encoded into a file called **testing.ra**. Notice that you can also change the destination to a RealAudio Server. This would place the file into the server directory, and would allow the audio to be served as the audio is encoded live.

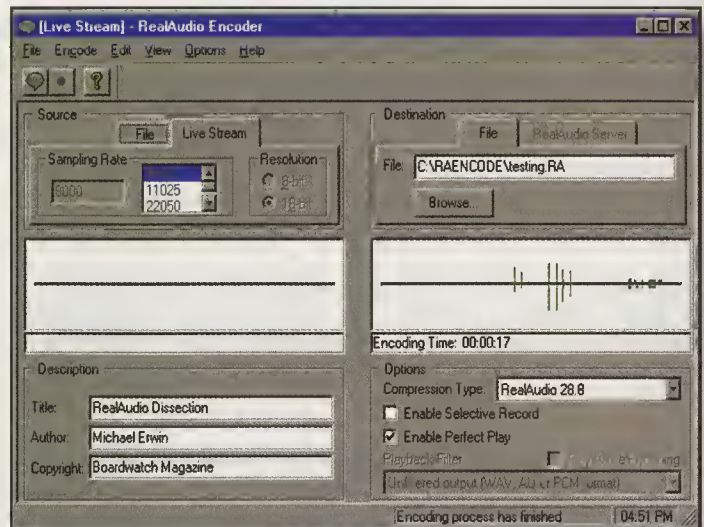


Figure 2: Encoder Controls RealAudio File Sources

Now that I had the RealAudio server up and running and some audio files created, I tested its operation by starting the RealAudio player and opening a connection to the RA server. I did this by entering in my browser's Location window the URL of the RealAudio server along with a requested .RA audio file, using the following command:

```
pnm://198.77.21.195/testing.ra
```

This sends a request to the RealAudio server for the audio file **testing.ra**. If the file exists, the player starts playing the file as it arrives to the client.

Now when I was ready to stop the UNIX version of RealAudio server, I had to enter the following at the prompt:

```
kill 'cat /pnserver/logs/pnserver.pid'
```

To stop the Windows NT version of RealAudio server, you need to open the MS-DOS window that the server is running in and use Ctrl+C.

This is okay for simplicity, but as you will see, this product is not cheap. And this way of administering the RealAudio server seems primitive compared to how you administer Netscape Server 2.0 or O'Reilly WebSite Pro. However, it does work.

ISSUES

The first thing you need to remember is that you can not truly provide live streaming audio or video across the web. Why? Well for the most part, what will be actually happening is that web server will have an embedded hyper link to the audio server, which causes the browser to launch a helper application such as a player utility based on the MIME definitions defined both by the web server and the browser.

This means that not only does the broadcasting server need software and possibly hardware installed and configured but

the receiving client must have various software utilities installed and configured before any client can receive and decode the streamed encoded data. This requirement will make the streamed content you generate unavailable to many on the web. As always, you want to take into consideration the clients requirements.

If you archive a bunch of RA files, you will need to have adequate hard drive space. RealAudio encoded audio documents require approximately 1Kbps of recorded audio for 14.4 format and 1.6Kbps for 28.8 format. That means that 1 hour of 14.4 format of recorded audio requires approximately 3.6M of disk space and 1 hour of 28.8 format of recorded audio requires approximately 6M of disk space after encoding and compression.

Progressive Networks also makes available for download a Personal RealAudio Server. You can download the personal version by just answering some questions. You can also download the server documentation in either PostScript or Adobe Acrobat PDF format.

The software is kind of expensive; the commercial version has a price starting at **\$2,490** for a 10-user license, and increases to **\$13,490** for a 100-user license. Progressive Networks does offer a 60-day evaluation program to see if RealAudio meets your needs.

PERFORMANCE

The RealAudio Server is relatively small. It only uses 2M of RAM to run, assuming that the system resources are not over-

CONTACT INFO

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1111 3rd Ave, Suite 2900 Seattle, WA 98101

(206) 674-2700

mailto:info@realaudio.com

http://www.realaudio.com

whelmed from other applications running on the system. Additionally, the server software does not have a high impact on the CPU. RealAudio's documentation states that a 100 stream server, running on a 90MHz Pentium, uses less than 30 percent of the CPU cycles. A system connected by a T1 line is likely to run out of bandwidth before it runs out of memory and CPU horsepower.

The RealAudio server requires at least 10Kbps for 14.4 format and approximately 22Kbps for 28.8 format for each RealAudio client connected to your server. That works out as follows: a 56Kbps leased line can only accommodate approximately five simultaneous 14.4 Kbps connections. A T1 line, by contrast, can accommodate over 100 simultaneous 14.4 connections. So, if you are planning on using RealAudio for commercial applications, a T1 is the smallest IP bandwidth connection you should use. ♦

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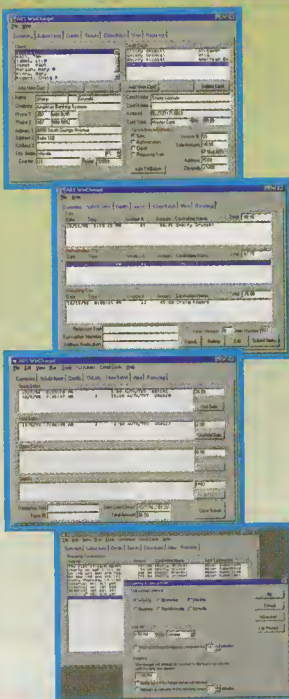
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* You are an ISP who wants to let people purchase dial-up service on the Web. Use the WinCharge! program enabled for the Web, and it will validate all of your orders for you automatically.

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Windows with Web for Multiple Merchant Accounts

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- *Includes manual, serial reader, importing and Web HTML modes of data entry
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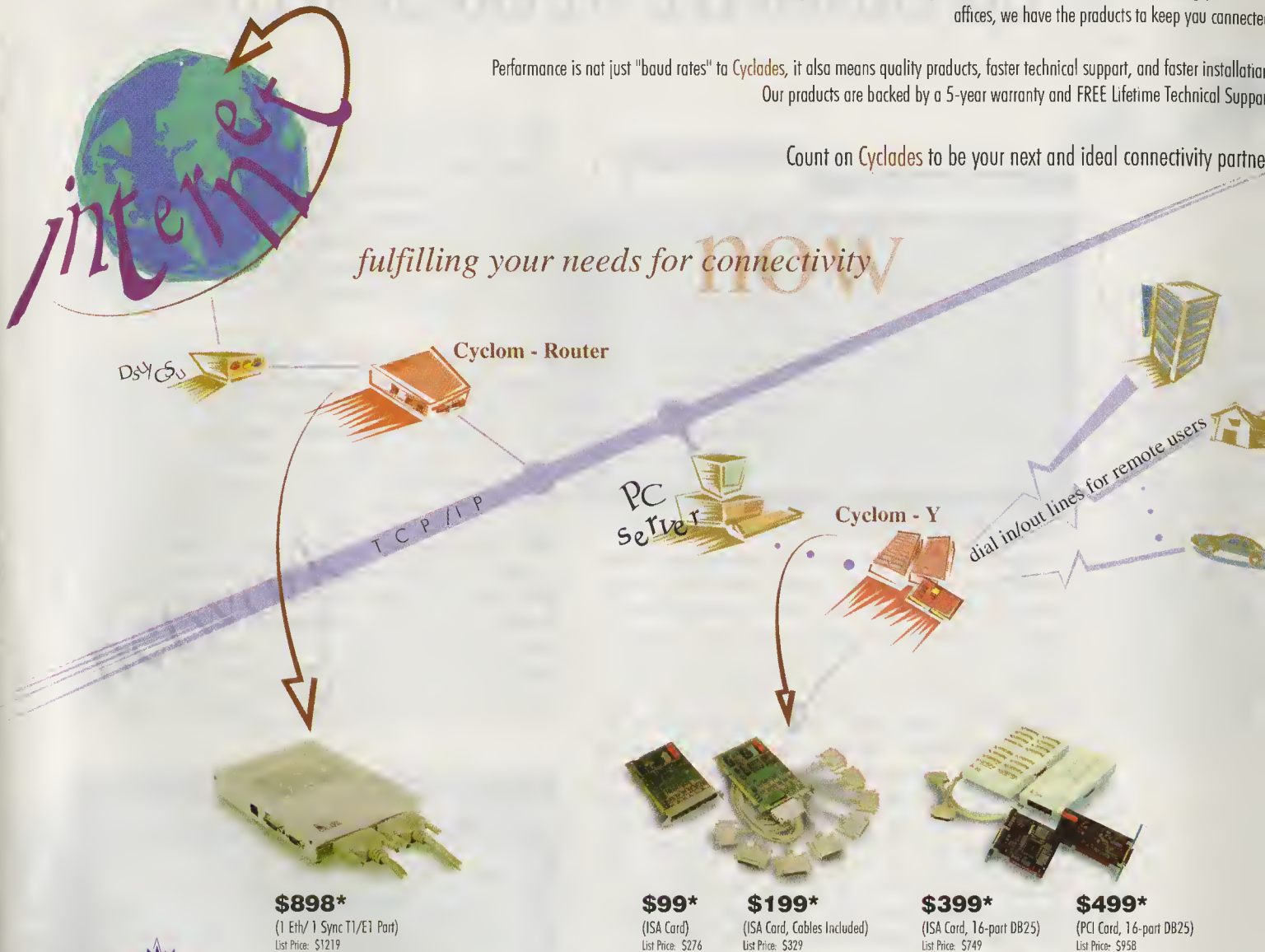
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CONSUMMATE WINSOCK APPS by Forrest Stroud

EMISSARY 2.0

emissary

Desc: Ultra cool new Net suite
Pros: Excellent integration of six superior Net apps, all the best features and a whole lot more
Cons: Telnet app weak, no 32-bit version
Status: Commercial software - \$99
Company: Attachmate Corporation
Website: <http://www.attachmate.com/emissary/download.htm>

Emissary, developed by the Wollongong Group which Attachmate purchased, offers seamless, multi-threaded integration better than any other client I've used. Web browser, newsreader, local and remote file management, mail, and telnet services are all offered from one central interface. In addition, inline plug-ins can be added for even greater versatility and functionality. Most Net suites available today excel in one area but noticeably trail in several others; Emissary is perhaps the lone exception to this prevailing trend. The speedy web browser is Emissary's strongest client and stacks up very well against the competition, offering many advanced features like centering, background images, tables, frames, Netscape 2.0/Internet Explorer 2.0 tags support, client side image mapping, transparent gifs, inline plug-in support, and much more. Additionally, as with Netscape 2.0 Gold, Emissary offers users the ability to conveniently and easily edit web pages from within the web browser — even tables can be modified. A recently added toolbar for editing HTML documents makes the process even easier than before.

While the web browser alone makes this client a viable download, there are several additional clients that are just as strong. The local and remote file management services are, in a word, awesome. Transferring, deleting, and updating files from different locations have never been easier, largely due to the efficient drag and drop interface. Another client, the e-mail app, delivers multimedia mail in an efficient and extensive package — sound clips, images, formatted text, and more can all be integrated into an e-mail message within Emissary. Unfortunately, the multimedia mail capabilities can only be best utilized when the receiving side is also using Emissary. The news reader offers some impressive features as well

and is one of the faster news clients currently available. The extremely cool ability to automatically decode images from within Emissary, multiple sorting options, asynchronous processing, right-mouse button functionality, the ultra-awesome Spam-Defense and Bozo protection features (kill list filtering and thread watch/ignore monitoring), and complex article searching are just a few of this client's strong features.

Each new release of Emissary has delivered the most sought-after features requested by users of the product, and the current beta release is no different. The new version offers important features like Emissary agents for automating and scheduling repetitious tasks, a navigation wizard for helping users construct URLs, a themes feature for creating custom macro buttons and bookmarks, SSL and 128-bit PCT security, offline mail support, progressive and multiscan JPEG support, automatic retry for the FTP client, and also improved performance. Perhaps the best feature of all, Emissary now offers an integrated spell checker that works seamlessly with each of Emissary's individual applications. The bottom line? Emissary is by far the best Net suite currently available, and even at \$99, Emissary is still the steal of the year for Net apps.

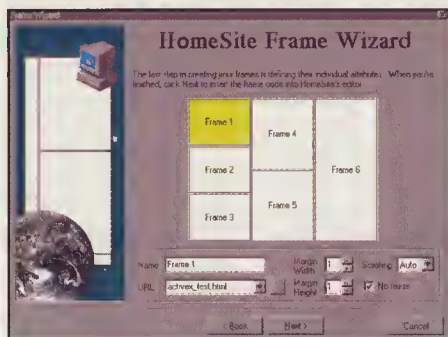
HOMESITE FOR WINDOWS 95

Desc: All the latest tags and tools in an inexpensive and easy to use package
Pros: Great collection of features, all the latest tags and tools, inexpensive and easy to use
Cons: Slow start-up, lacks several important features like remote file editing and saving
Status: Shareware - \$25
Author: Nick Bradbury
Website: <http://www.dexnet.com/homesite.html>

es the selection of features found in WebEdit and HotDog but also gives each a run for its money in terms of overall power, ease of use, and price. HomeSite includes complete HTML 3.2 support, wizards for advanced HTML programming, word wrap, support for long filenames, right mouse button functionality, color coding, and support for tags specific to Internet Explorer 3.0 and Netscape 3.0. Less

The applications reviewed here and many more are available on Stroud's Consummate Winsock Apps List, <http://www.stroud.com> and <http://www.cwsapps.com>.

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than a year ago, enhanced features like multiple file find and replace (extended replace), project management, quick and efficient spell checking, a document list view for quick access to web files and projects, full screen editing capabilities,

support for both inline and external web browsing, multiple level Undo and extensive online help would have been enough to vault HomeSite to the top of its class. Today, if this were the extent of its capabilities, HomeSite would fare no better than other HTML editors that have quickly been rendered obsolete by the ever-improving trio of WebEdit Professional, HotDog Professional, and Microsoft FrontPage. HomeSite, however, escapes the fate of its brethren by offering all of the above plus a whole lot more.

HomeSite sports a powerful multi-level toolbar with quick access to often used HTML tags, tools, and wizards. The attractively designed central toolbar allows you to effortlessly switch between HomeSite's extensive collection of options. Font attributes; table and frames wizards; comments, lists, and line editors; a launchpad for easily running your favorite apps from within the HomeSite interface; customized tags; and buttons for making use of the latest in web technology are all just one click away thanks to the top-level toolbar.

Going just one level deeper delivers the entire HomeSite feature set through various tool buttons. Whether you want to quickly create a form or image map, embed an ActiveX control or Netscape object, insert an anchor or image (with auto-detection of width and height), launch an FTP client for uploading files or a web browser for viewing new documents, HomeSite not only makes it possible but also ensures that your task can be completed in a quick and intuitive manner. The Table and Frames Wizards are particularly powerful; only WebEdit's collection of wizards is comparable to HomeSite's in terms of ease of use and advanced features offered. HomeSite's attractively designed multiple document interface (MDI), another feature patterned after WebEdit, also helps distinguish HomeSite from the rest of the competition.

Without a doubt, HomeSite has more than enough features to make it appealing to both novice and expert web designers alike. Along with WebEdit, it is one of the few editors to quickly and consistently offer advanced support for the latest in web technology, support for ActiveX Controls, Java applets, document embedding, web scripting, and whatever other new features Microsoft and Netscape can come up with in the near future. However, like most apps on the Net, HomeSite's not quite perfect. Relative to its competition, the app takes entirely too long to load initially, making it a poor choice for quick updates and routine document changes.

HomeSite also could benefit from features like FrontPage's 'WebBots' and WebEdit's pre-coded collection of Java applets. HomeSite also currently lacks internal support for remote file uploading and editing; users have the choice of running an external FTP client or Microsoft's Web Publishing Wizard. Overall, it's quite easy to overlook minor flaws like these when you consider the amazing array of advanced features and tools

offered by HomeSite. And when you take a look at the price of the app, you'll really be amazed — the initial release of HomeSite is freeware, and the newest version, 2.0, will only cost \$25 when officially released. How's that for an excellent return on your investment?



MICROSOFT NETMEETING

Desc:	Microsoft's entry into the Internet phone (audio chat/conferencing) battle
Pros:	Application sharing and whiteboard conferencing, real-time audio communication capabilities
Cons:	Slow and buggy; lacks many important features found in competitive products
Status:	Freeware
Company:	Microsoft Corporation
Website:	http://www.microsoft.com/netmeeting

NetMeeting is Microsoft's attempt to capitalize on the ever popular Internet communications market, specifically real-time audio-based communications. With NetMeeting you can call people from around the world using Microsoft's online user directory. Communication can take place on several levels, including full or half-duplex audio (depending on your sound card's capabilities), whiteboard conferencing, application sharing, and text-based chatting. Additionally, NetMeeting allows for files and sound clips to be transferred between users.

NetMeeting also continues the "Favorites" motif found in its popular web browser, Internet Explorer. Favorites are similar to bookmarked web sites, but in NetMeeting they function as bookmarked callers that you can quickly and easily call back. NetMeeting is foremost designed to be a conferencing application, allowing groups of users (regardless of location) to work together efficiently and productively. One of NetMeeting's strongest features in this area — and definitely one of its most unique — is the ability to "share" any application. You can work with another user from any location as long as the application to be shared is running on at least one platform. Remote control of an application is one feature you just have to see in order to understand its importance to the Net conferencing scene.

While NetMeeting is currently only in beta release, aside from its application sharing capabilities, it is still somewhat of a disappointment considering its source. Relative to its competition, NetMeeting is surprisingly slow and lacks many critical features. VDOPhone's real-time video capabilities; Speak Freely and Televox's advanced compression and encryption options; Internet Phone and WebPhone's call waiting, caller ID support, and voice mail; and CyberPhone and Speak Freely's cross-platform compatibility are just a few of the superior features found in similar product offerings. At this point in time, NetMeeting manages to claim a spot in the middle of the pack for Internet Phone clients, once again primarily for its superior conferencing features. Like Televox, being a free application helps, but with so many strong competitors, it will likely be tough for NetMeeting to carve out a niche in a category that already includes so many popular clients. The final analysis — Microsoft will be hard-pressed to take NetMeeting to the top of the class in this competitive market. ♦



DR. BOB

by Bob Rankin

SPAM / COUNTERSPAM

In the Star Trek saga, it took a combination of matter and anti-matter to send the Enterprise hurtling through space. In the same vein, an awful lot of energy is generated in cyberspace by the mixture of spam and anti-spam.

The mere mention of Cantor, Siegel, Wallace or Slaton is enough to boil the blood of some hardcore anti-spammers. They devote line upon line in many a newsgroup or mailing list to devising ways to stop the onslaught of unsolicited e-mail; while those on the other side quietly develop techniques and software to foil them at every turn.

Two of the best known players on either side of the fence are Jeff Slaton, known as the Spam King, and Pat Townson, long-time netizen and Zealous Foe of Spammers. I talked to them both about their views on spam, how it affects the Net, and what should be done about it. I asked the questions. They provided answers from their points of view. Any conclusions belong to you.

INTERVIEW WITH JEFF SLATON

Doc: To start things off, can you give *Boardwatch* readers a few words about yourself, and tell me how long you've been online?

SLATON: I've been online for over two years. I started out with computers 8 years ago on an Apple, and I now operate off of 2 DEC workstations and 3 industrial PCs. I worked for US WEST for ten years as a Yellow Pages consultant, and was one of their top representatives in sales performance. In July of this year, I resigned from the company to pursue Internet marketing on a full time basis.

My motivation for leaving the company was based on the fact that US WEST / MRG is investing billions of dollars in the cable industry. Their objective is to capitalize on the ever growing symbiosis between telephony and cable. In my opinion, I believe that ATM (asynchronous transfer mode) will be the common link between the two technologies. Currently, my

company is developing asymmetric transmission for the Albuquerque market. IQ Highband (tm) will be available soon after the first of the year.

Doc: You've become known as the Spam King in the online world. Was that title self-conferred or given to you by someone else?

SLATON: The name the Spam King was self-conferred. My strategy was to be as controversial and annoying to the Internet community as possible, and I think I've succeeded. The advantage has been a lot of free publicity. I've calculated that I would've otherwise paid far over a million dollars in advertising for the same exposure. I offer a special thank you to all of my "friends" for drawing attention to my Internet business.

Doc: How would you define Spam?

SLATON: I define Spam as off topic postings to newsgroups or the sending of unsolicited or unwanted e-mail. Spam is also a very tasty meat product produced by the Hormel company.

Doc: Is it bad for the Internet?

SLATON: Spamming is bad for the Internet. When I first started out spamming a couple of years ago, there wasn't a lot of competition. Now, it isn't unusual to receive 15 or 20 solicitations in my e-mail box. However, I want you to understand that I

am FOR the advertising industry using e-mail as a legitimate means of reaching their market.

IQ Internet is dedicated to the purpose of "responsible" commercial mailing to "qualified" lists of Internet users. I will NOT be sending unsolicited commercial e-mail or broadcast e-mail to those who do not want (or those who actively oppose) the growth of commercialism on the Internet. A key component to our IQ INTERNET system is to send a single, non-commercial message to each e-mail address our system processes. We will explain our do-not-mail list and allow selection of either "NO-MAIL," "SEND MAIL" or "SELECTED MAIL ONLY" from a specified list of cat-



JEFF SLATON

Bob Rankin, known as "Doctor Bob" in the online world, is a writer, computer programmer and consultant who enjoys exploring the Internet and sharing the fruit of his experience with others. Bob is co-driver of *The Internet TourBus* and author of "Accessing The Internet By E-Mail", which has circulated widely on the Internet, and is available in 15 languages. Send e-mail to <mailto:BobRankin@mhv.net> or visit him on the web at <http://csbh.mhv.net/~bobrankin>

egories. A central, national do-not-mail database will be maintained and honored by all users of the IQ INTERNET mailing system.

This is implemented directly into our server in order to absolutely prevent any of our users from failing to clean their list and accidentally (or intentionally) mailing those who have asked not to receive commercial E-mail. We've also modified our system to identify and re-route to the bit-bucket any and all incoming e-mail from terrorists. A copy of their offending activity will automatically be mirrored back to their postmaster. IQ INTERNET is also maintaining a substantial legal "offense" fund to aggressively pursue, litigate or prosecute those 50 to 70 terrorists that are the root cause of most of the flaming and server attacks.

Doc: *Some anti-spammers claim that you have forged e-mail or Usenet posts to harass them. Is that true, and what kind of heat have you taken for your unpopular online activities?*

SLATON: I have lived the life of Salman Rushdie for the last year and a half. I've been threatened, lied about and given credit for just about every forged or unsolicited e-mail on the Internet. However, the trade off has been more than satisfying. The free press, including a 4 page feature in WIRED magazine, the San Jose Mercury News, L.A. Times, Direct Marketing News, C/Net TV show and countless other publications has been wonderful! I'm constantly amazed at the support that all of my "friends" continue to offer my thriving business.

Doc: *At Comdex 95 you reportedly vowed to spam no more. What motivated you to make that statement, and have you kept your promise?*

SLATON: I have kept my promise at Comdex 95 - more or less.

Doc: *Your company sells Lightning Bolt software and other products to do bulk e-mailing. Is this consistent with your Comdex pronouncement that this marketing technique is self-defeating, destroying the very pipeline it utilizes?*

SLATON: I am no longer offering Lightning Bolt software. Even though I encourage responsible e-mailing, there are those who have purchased the Lightning Bolt software and use it to spam. However, with my new service,

there is no need for the purchase of special software. All one needs to do is access our Web site with name and password. Our customers can select from the categories of demographics, then type in or paste their commercial message and hit SEND. Our server does all the work!

Doc: *Sounds like your new service will only send mail to people who request it. Does this mean you'll never hit another newsgroup or mailing list?*

SLATON: We will never send a message to a Usenet group or mailing list.

Doc: *In order to build your bulk mail lists, you'll have to send out millions of (unsolicited) e-mails, right?*

SLATON: We will be sending a one-time message to every address on our list to let people know about the service, and give them a chance to opt out.

Doc: *Do you provide a way for individuals or site admins to request that they be put on a "no mail" list?*

SLATON: People can register at our web site to request that they receive no mail from us.

Doc: *Do spammers and bulk e-mail vendors really rake in Big Bucks?*

SLATON: No comment.

Doc: *How do you respond to critics such as Robert Raisch who claim that unsolicited commercial e-mail is "postage due marketing"?*

SLATON: Raisch is absolutely correct in his statement that e-mail is postage due marketing. It makes no difference if you are paying by the minute or paying a flat rate for access to e-mail. We all pay for unsolicited commercial e-mail by the amount of system resources it consumes.

Doc: *Do you consider the use of bulk e-mail an ethical practice?*

SLATON: I consider the use of bulk e-mail as a totally ethical means of reaching prospects. Unsolicited e-mail should be regulated out of existence.

Doc: *Do businesses who employ spam as a marketing technique damage themselves in the long run? Are they "trampling the ground" in search of a quick buck?*

SLATON: I believe that there is both a long and short term consequence to using spam as a marketing technique. Server attacks and flames generate a tremendous amount of negative publicity, and there is a growing negative response toward receiving unsolicited commercial e-mail. I believe that major corporations are waiting in the wings for commercial e-mail to come out of the basement into mainstream advertising.

Doc: *Do you identify in any way with other well-known spammers, such as Canter & Seigel? Have you ever met them or read their book?*

SLATON: Canter and Seigel are pioneers. Like the pioneers, they have received more than their share of arrows. I met Canter and Seigel at Comdex 95, and I've taken their concept and evolved beyond simply posting to news groups. IQ INTERNET now affords an inexpensive, legitimate means of reaching a warm market for products and services.

CONTACTING JEFF SLATON

You can contact IQ INTERNET
at (800)944-3366
or <http://www.iq-internet.net>

INTERVIEW WITH PAT TOWNSON

Doc: *How long have you been active online, and what have been your primary online activities?*

TOWNSON: I started my first BBS in 1979, with a co-sysop in Chicago; it ran on a TRS-80 from Radio Shack. I was also the volunteer sysop of the Chicago Public Library BBS (the first library BBS in the USA) from 1981 to 1983.

I first became involved with the Internet during 1983, primarily in the Usenet newsgroups. In the fall of 1988 I assumed the duties involved with moderating comp.dcom.telecom and **Telecom Digest**, which had been started in August 1981 by Jon Solomon.

Doc: *How would you define Spam?*

TOWNSON: Spam is the multiple placement - in excessive quantities - of items in newsgroups on the Net, particularly when the item has no relevance

to the groups in which it is placed. It's also sometimes interchanged with the phrase "junk e-mail" but it shouldn't be used that way. Junk e-mail refers to multiple postings of the same item in e-mail to a large number of users, usually of a commercial nature. Historically, we first started seeing Spam regularly about three years ago.

Doc: *Is it more than bad manners... does it pose a real threat to the Net?*

TOWNSON: The Net is pretty sturdy and has gone through a lot of use and abuse over the twenty years or so it has been around. But even so, there is some limit to the amount of traffic it can handle. When I first got started on the Net there were about 400 or so newsgroups. Now there are several thousand. Processing of news takes longer and longer, with more and more resources having to be devoted to it. So I don't know if I would call spam a "real threat to the net" but it is certainly responsible at least in part for the general degradation in the processing of news we've seen in recent years and it is a severe annoyance.

Doc: *What is wrong with espousing a "live & let live" or "just press the delete key" philosophy when it comes to spam?*

TOWNSON: The difference between junk e-mail and junk mail which comes to your postal mailbox is that the latter is always paid for by the sender. You might argue about the rates charged, and who subsidizes what where postal mail is concerned, but the fact is the end-recipient does not have to directly pay for it. Unfortunately on many commercial e-mail systems and a number of ISPs, users must pay for incoming and outgoing mail. They pay for the time they spend online weeding through what they received in their mailbox.

As an example, the other night I was on my own personal AOL account. I had to spend twelve minutes, working efficiently and quickly, just zapping out the several dozen items of junk e-mail which had accumulated there in the week prior. I had to pay AOL for that 12 minutes, and I had to pay for the excessive amount of mail received.

Doc: *Do you think spammers really rake in the Big Bucks they claim?*

TOWNSON: I really don't think so. I believe there is a perception that a lot of money is to be made on the Net, but most of the newcomers trying to do it simply don't understand the mentality of the Net community.

As an example, I solicit voluntary contributions to assist in the publication expense of **Telecom Digest** which is my full time employment. My post office box is not running over with mail by any means. And I have about 75,000 readers each day who specifically invite me into their cyberspace by subscribing to the Digest. I'm not getting rich by any stretch of the imagination - in fact I can barely pay my rent and other bills. Maybe five percent of them have at one time or another sent a gift to help defray the cost.

I'm sure every spammer has seen money as a result of his spam. I'm equally sure that in general they have been disappointed with the results. I defy anyone to produce for me a spammer who has made anything close to 'big bucks' from spam.

Doc: *Tell me about your experience in tracking down and exposing the Spam King.*

TOWNSON: It wasn't hard... Jeff Slaton has never made any real effort to hide or make himself unavailable. The phone number was tracked to Albuquerque, New Mexico. Quite a few people on the Net besides myself had already been in contact with him.

Doc: *What motivated you to expend the energy to dig up and post "personal" data on Slaton?*

TOWNSON: Someone - Jeff Slaton insists it was not him - broke into one of my accounts, ripped off the **Telecom Digest** mailing list and spammed them. Not content to stop at that point, they used, or rather abused certain privileges given to me to spam a bunch of newsgroups.

Whoever decided to send out some spam advertising the service offered by Jeff Slaton used my **nnptxmit** script to hit every one of my trusted news feeds to dozens of newsgroups. As a result, two of my newsfeeds quit accepting from me and a couple others were quite put out by it. The spam advertised Jeff Slaton's service as did the junk e-mailing to my list. Someone must have done it as a favor to help Jeff, since he insists he did not do it.

Doc: *Were there any negative repercussions, positive or negative?*

TOWNSON: Not particularly, either way. I think all of us involved in the Net at times take it and ourselves far too seriously. The spammers at first think

they are going to make lots of money and the rest of us think we are going to put a stop to it all and clean up the Net, etc.

Doc: *Do you think Slaton's privacy was violated?*

TOWNSON: No, because his telephone number and address were published in the phone book in Albuquerque. Anyone is free to quote the entries in that book. And that is essentially all I did other than quote his social security number on Usenet. SSNs are also a matter of public record. You just have to know where to find the record. Ditto with criminal history files and other courthouse records.

Doc: *Do you think your efforts in chasing Slaton led to his "no more spamming" pronouncement at Comdex 95? Has Slaton kept his word?*

TOWNSON: That would be taking far too much credit for myself. A large number of people on the Net contributed to the effort. I think Jeff Slaton may have finally wised up and reached the conclusion that it just was not worth the effort... that the profit just was not present, at least not in the amount needed to compensate for all the time and trouble spent. I don't know how many ISPs kicked him off their services. But I know that if I had to look for a new service provider every month or two I'd get tired of it fast.

Has he kept his word? I'm not in a position to say. I do know I haven't seen anything new from him in months, and I used to get a lot of it. He might be out there spamming for all I know, but at least he is coming nowhere near comp.dcom.telecom, which is all I really care about.

Doc: *Are there any organized groups of Spam Hunters or is it just a bunch of lone ranger efforts like yours?*

TOWNSON: I don't think there is any organization behind it. Quite a few Netters enjoy the challenge of tracking down the spammers. Quite honestly, I don't have a lot of time to do it personally any longer. I just print the results in **Telecom Digest** from time to time if there are one or two of particular interest to me.

Doc: *The problem of unsolicited commercial e-mail seems to be growing. What in your opinion should the Internet community do to remedy this?*

TOWNSON: Yes it is growing steadily. Just as in the early days of CB radio when new and largely ignorant guys got on and ruined it, now the same kind of people — most of them well-meaning — are thinking this is their chance for the big time. Slaton and others like Cyber Promotions are quite willing to help spread that myth. After all, they get money for getting the new guys started.

What one single thing can the Net community do? We must get rid of the perception that there is a profit to be made. The Net community must help the spammers and junk e-mailers understand this. How do you do that? Very simple. Deprive the spammer of any convenient way to receive responses.

Most long ago learned that they dare not give out any valid e-mail address with their spam or junk mail. They know if they do, their sysadmin will get flooded with complaints and most likely cancel their accounts. So now they have no e-mail address—the logical first choice for anyone they expect to respond to them.

Some decide to go with an 800 phone number. I've been encouraging people to use these numbers quite liberally to "discuss" the products being offered. Call and waste their time on the phone asking questions over and over. Call again tomorrow and ask the same questions again. Before long they are going to get a phone bill which clearly is outrageous (just ask Jeff Slaton!) and with few or no dollars in return from sales.

They can give a post office box address, but you can also write to the Postmaster at <zip code> and inquire for the name and street address of the person in possession of the keys to the box, since this is public information under the Freedom of Information Act.

Note that you should NOT harass by telephone (and that includes phreaking or hacking) at any time. That's against the law, a federal felony. Do NOT go to their house or office to harass them for the same reasons. But if a toll free number is given, by all means call as often as you need to make up your mind if you are going to order what they are selling.

When Slaton and others who sell the software reach the point they have to include in the documentation for their product that "we do not recommend you install an 800 number or use an e-mail address for responses" then the prospective user of the software is going to say geeze, what other real choices do I have?

Doc: What role should ISPs and the big online services play?

TOWNSON: They need to help their users by installing appropriate mail filtering software, arranging it so mail from known spam sites gets tossed in the bitbucket with no one even seeing it. Make its use voluntary of course and easy to turn on & off by users. Wouldn't it be something if someday Cyber Promotions sent out a bulk e-mail and 90 percent or better of the intended victims—err, recipients never even saw it?

To reiterate, we must remove the perception of profit to be made on spamming and you'll remove the reason so much of it appears at all. ♦

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ISP TALK

by Bob Rankin

Some ISPs get into the business with visions of dollar signs dancing in their heads. Some of them even make a few bucks. But one Colorado ISP has decided it's not interested in pulling a profit.

Roaring Forks Internet Users Group (ROFINTUG) in Aspen is a bona fide non-profit organization, dedicated to the proposition of making the rural mountain community a better place by providing inexpensive access to the Internet.

Traci Collins, current President of ROFINTUG and a computer professor at Colorado Mountain College, told me that private industry wasn't meeting the acute need for local Internet connectivity. "We strongly believe that our communities need the educational opportunity that the Internet provides and we think a non-profit can be more creative about outreach and pricing than a for-profit business," says Collins.

Although ROFINTUG has existed in one form or another for over a decade, it was in May of 1994 that things started to get exciting. The Society held a dinner get-together of all the interested computer people in the valley and the Internet was a major topic of discussion. The combined presence of the marketing director for **Colorado Supernet**, one of the state's oldest and largest ISPs, along with several people from **Aspen Smallworks** (an R&D subsidiary of Sun Microsystems) produced a creative spark that led to the establishment of ROFINTUG as a community network ISP.

Bill Joy of Sun Microsystems stopped Richard Sherman on the street several months later and made him an offer that sounded pretty good. Sun would agree to host a community network for one year, with Aspen Smallworks providing space on their server, use of their T-1 connection, and tech support — if the Roaring Fork Computer Society could raise startup cash for the necessary hardware.

Richard Sherman raised \$30,000 in less than a week for the modems, the Livingston Enterprises Portmaster router, the installation and leasing of the phone lines. Several volunteers worked with Sun to get things up and

running. Five months later, ROFINTUG had a thousand members happily paying \$10 a month for all the PPP they could eat, but they were starting to feel the pain of growing too fast.



**Traci Collins, president
of ROFINTUG**

PIONEERS AND PROBLEM SOLVERS

They were also starting to put a strain on the Internet connection of their benefactors at Aspen Smallworks. Since the group was allowed "only" 30 phone lines at Aspen Smallworks, it was clear they had to sink or swim on their own. In October of 1995, ROFINTUG committed to going independent and put a freeze on memberships in order to keep an acceptable level of service for existing members.

By March of 1996, the group was up and running on their own servers, T-1, and many new dialup lines. An additional 800 members poured in as soon as membership was unfrozen. Today the group boasts five full time employees and over 3000 users with 100 or so newcomers each week. Not too shabby, considering they've never spent a nickel on advertising.

But success in this business always breeds new problems — the new T-1 and 125 incoming phone lines are getting crowded. The group planned to add a

second T-1 and additional lines to eliminate busy signals by November. The current hardware lineup includes three servers on a 100Mbps local area network, three Livingston Portmasters, and one rack mount managed modem system with 125 phone lines. The pool of 125 modems is split between 89 USR consumer modems, and 36 "more manageable" modems.

"The USR modems in our hunt groups are a major problem," says Collins. "They go off in space from time to time and there isn't any good way to narrow down which modem needs to be reset. The only solution there is much more expensive equipment which includes the tools necessary to manage it. A year and a half ago I never would have believed that I would pay \$2,500 for four modems but we do, as quickly as we can afford to."

The group did experience some user discontent during the switch to their own servers. Because they had a lot of technical problems and not much time to communicate with the membership, rumors began to fly and a lot of people got very upset and concerned. Collins said they solved the problem by working harder at communication, and also by solving the underlying technical problems that were causing the discontent. "Once we got online with our own system with more phone lines and other resources, people could see that things were better. Several of those activists have gone on to run for election to our board and one of them is a member of our executive committee."

PUTTING COMMUNITY IN THE NETWORK

ROFINTUG attempted to have regular public meetings like traditional computer user groups from May until September of 95, but they've been so busy coping with growth that there has been no time to organize any more meetings. They did have an annual membership meeting in May of 1996 and were co-sponsors of the Aspen Interfest III conference.

The group also plans to host smaller regional user group meetings on a regular basis in all the communities they

serve, with one goal being to reduce the tech support problem. Collins hopes members will attend and learn how to solve their own problems, but also stressed that "our communities need to be full of people who have the knowledge and the tools to work with the net."

None of those who started ROFINTUG wanted a new business or a new job, says Collins. "We're all heavily involved in volunteering to make our communities better places. This is a community building commitment far more than it is just an ISP. But providing access is the pre-requisite to building a community on the Net."

ROFINTUG'S BILL OF FARE

ROFINTUG offers dialup services to individuals and organizations, with an annual membership fee of \$10 for individuals and \$50 for a business or an organization. Monthly charges for both businesses and individuals are \$10 per account.

Each member has the right to create a home page of up to two Mb. If a business account needs more space or design services, ROFINTUG refers them to one of several businesses that have formed in the region to provide those services. They provide domain hosting for a \$25 setup fee, but the member is responsible for acquiring the domain name from the InterNIC.

Basic services include e-mail, Usenet news, WWW service, and an IRC server for members. The Internet Valet software suite is available for \$35, but members are welcome to use any TCP/IP software and Internet applications. Phone support is part of membership during normal business hours. Members can request an on-site installation and setup visit for \$75.

The group provides "reasonable rather than unlimited" connect time for the modest flat fee. They disconnect users after 10 minutes without activity and they discourage users from connecting a PC twenty-four hours a day to run a web server on it.

As for competition, there is Colorado Supernet, but Sprynet with its \$19.95 a month rate and both national and international POPs is perhaps the most serious competition. Collins really isn't worried about other ISPs breathing down their necks.

"Competition is a funny thing in our context," says the ROFINTUG chief.

"We exist to insure that our communities are well served. In that sense we're actually more in *cooperation* with our competition than we are in competition with them. There's more need here than we have the human capital to meet, and the more people and organizations — both public and private — that join with us to meet the need for connectivity in our region, the better off we are."

BEING NON-PROFIT IS EASY

Even though the group takes in about \$30,000 a month, the need is a lot bigger than the revenue. Collins points out that the July 1996 *Boardwatch* survey showed that the average ISP has an investment of over \$1,000,000 in hardware and software. "It's going to take quite a time before our income buys that much stuff," she says. "There are those \$2,500 quad cards and the much more expensive rack and chassis that they go into, and we need a lot of them." Then there are the usual expenses in terms of phone lines, T-1 lines and personnel.

At the moment, ROFINTUG does not foresee a problem remaining non-profit. They're hoping that they can hold down overhead as they grow to have some money to use for more purely educational purposes. "That's the community building," Collins says. "We have done a few things like that but we have just begun to find ways to use our revenue stream to fulfill our broader purpose."

The group has experimented with a fleet of rof.* newsgroups for local community communication, but that hasn't worked very well, since most users seem to be news readers rather than news writers. They've also added a web conferencing system, which has had a little more success than the newsgroups but not as much as they hoped. "The bottom line," notes Collins, "is that community is built on top of connectivity and our first year and a half has been spent creating the affordable connectivity."

Collins says almost all of ROFINTUG's members are locals. They do get some summer members who join because they're in the Aspen area for several months. But most of the hundred or so visitors who log on a few times a year have a provider somewhere else in the world.

MORE OF A GOOD THING?

Given that this group has achieved a fair measure of success in a short while, I

asked Collins if the business model they employed could be duplicated elsewhere. Collins says she is in fact talking to Colorado Mountain College about how they might be able to cooperatively spread the model to the other communities served by the college.

A community network costs much less to start up if you have the assistance of a benefactor such as Aspen Smallworks and a volunteer who can more or less make it a full time job. But Collins believes that a community could do what they did with an enthusiastic and unified group of volunteers who manage to raise \$100,000. "It would be good to find some support to lower the hurdle. I think a mix of \$50,000 raised by a smaller community and a matching grant of some kind would be a really healthy way to begin."

Collins added that you'll need some volunteers who are interested in technology to share their experience with other people who are willing to learn those skills and be of service as well.

It remains to be seen if ROFINTUG will achieve its goals for community building through an online venue, but clearly the group provides a service that is in demand and spinning off opportunities for other local businesses. We're interested in hearing from other non-profit groups that have successfully endeavored to build community networks. Heck, even if you tried and failed miserably, let us know! It's an interesting contrast to the for-profit ISP shops, and it should be equally interesting to see how both groups flourish in the environments they serve. ♦

**CONNECTING
WITH ROFINTUG**

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Internet Users Group

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<http://www.rof.net>
<mailto:office@rof.net>

The INTERNET in the United Kingdom

by Will Barber

FAST FACTS:

UK domain names:

co.uk (commercial)
org.uk (noncommercial)
ac.uk (academic)
gov.uk (government)
police.uk (police)
sch.uk (schools)
net.uk (Internet networks)

UK Internet Service Providers Index:

<http://www.limitless.co.uk/inetuk/providers.html>

The UK Press Associates:

<http://www.pa.pres.net>

Weather Satellites:

<http://www.meto.govt.uk/>

But not to worry, there's a way around this in case you get lost. To find the location of the server and who it's registered to, simply go to <http://www.scotland.co.uk>, enter the Internet address, and the search engine will do all the work for you.

GREAT BRITAIN AND NORTHERN IRELAND

When you land at Heathrow airport in London and begin trekking around Great Britain you'll be struck by how small this region is in comparison to the USA. In fact, you can fit the entire United Kingdom (Great Britain plus Northern Ireland) into the state of Colorado.

Your travels around the UK should begin with **Dr. Dave's UK Travel Guide** (<http://www.neosoft.com/~dlgates/uk/ukgeneral.html>); it's a virtual almanac of information and one of the most user friendly and downright fun places to go on the Internet. Lots of nice photographs to enjoy with your scones (made with real cream of course) and that nice cup of Earl Grey tea.

LONDON TO PARIS ON THE CHUNNEL

It is now possible to leave downtown London by train in the morning, have lunch in Paris, see the sites, and then return to London in time for a night at the theatre. Thanks to the \$15 billion tunnel that was built underneath the English Channel (thus the world "Chunnel"), what was once a 10-hour journey one way by car or train can now be accomplished by high speed train (the Eurostar) in three hours. The Chunnel is 31 miles long, of which 23 miles are under 150 feet of water. The Eurostar, which travels down the track at speeds of 180 mph (only about 98 mph through the tunnel), can carry as many as 800 passengers on the run from London to Paris. Meals are served on board, and if you're in the first class section, you get pampered with gourmet food, reclining seats, cigars, and a telephone to call home! "Hey Dad, I'm calling from the bottom of the English Channel." So what's the cost for a round trip ticket from London to Paris? First class: £352.00 (\$574.00), Second class: £155.00 (\$248.00), Promotional/excursion fares: £99.00 (\$161.00). Current fares, timetables, and pictures: <http://www.eurostar.com>

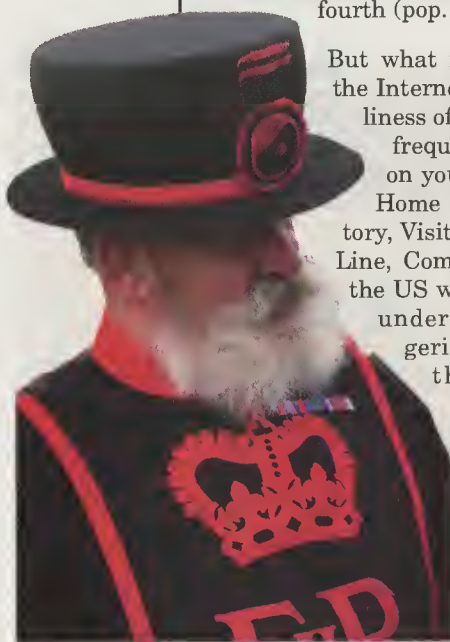
THE CONSERVATIVES VS. THE LABOUR PARTY

Are Britain's Tory days about over? For 17 years they have held power: first Margaret Thatcher and now

The United Kingdom comprises Great Britain (England, Wales, and Scotland) and Northern Ireland. Its full name is the United Kingdom of Great Britain and Northern Ireland. The UK ranks second only to the US in the number of computer hosts per capita (see Net Wizards, <http://www.nw.com/zone/WWW/dist-bynum.html>); that's pretty impressive given its size and population. For comparison purposes, Germany ranks third (pop. 82,000,000) and Japan fourth (pop. 125,000,000).

But what impresses me the most about the Internet in the UK is the user friendliness of the sites. For example, you are frequently greeted with a home page on your screen that reads: Members Home Pages, Members E-mail Directory, Visitors E-mail Directory, Who's On Line, Community Centre, and so on. In the US we "hide" all of this information under the guise of "security." Fingering works on many servers throughout the UK, which means you can easily "talk" with someone online.

The only downside to the Internet in the UK is that you never know whether the site you have just entered is located in England, Scotland, Wales, or Northern Ireland.



John Major. Recent polls show Prime Minister John Major with an approval rating of 29 percent, the lowest level of any prime minister since 1973. Who will be the next PM? Brits on the street suggest that by May 1997 the new PM just might be the popular Labour Party leader, Tony Blair. If you'd like to write **Prime Minister John Major** at mail to: jmajors@ccta.gov.uk. For general information, you can write to his press office at <mailto:info@ccta.gov.uk>. For information about the goings on in the **Houses of Parliament**: <http://www.parliament.uk>. The **Government Information Service** (<http://www.op.en.uk>) is also loaded with information and includes a helpful search engine.

THE ROYAL SPLIT

Britain's royal tabloid press corps (aka the "rat pack") have had a heyday over the divorce of Princess Diana and Prince Charles. Now, before you go feeling sorry for this love-starved chick, you first need to take a gander at what it's going to cost the Royal Treasury to keep this sweet little thing young, fit, and in style. London's **Daily Record** reported recently that Di spends about \$450,000 a year to keep up Kensington Palace (complete with 25-bedrooms), another \$200,000 for secretaries and assistants, \$45,000 for clothing, \$5,400 for monthly hair coloring, \$15,000 for aromatherapy and colonic irrigation (a good old fashioned enema), \$12,000 for her morning fitness routine, and about \$100,000 a year for pocket change. For those Royal Watchers who want to follow Di's escapades, Charles' romance with That Older Woman, and Fergie's (the Duchess of York) toe-sucking affair with Texan John Bryant, check out these Internet sites:

Daily Record-Sunday Times:
<http://www.record-mail.co.uk/rm/>

London's Electronic Telegraph:
<http://www.telegraph.co.uk/>

Usenet Newsgroups:
news:alt.politics.british
news:alt.talk.royalty
news:soc.culture.british

WEBCAM'S: GO TO ENGLAND LIVE!

Cambridge University has an interesting WebCam set up on the roof of one of its buildings, providing a panoramic

view of the campus (<http://www.cam-orl.co.uk/cgi-bin/pangen>). You can even zoom-in on some of the buildings for a close-up view. And of course there's the famous **Trojan Room Coffee Machine** that sits in the computer laboratory at Cambridge (<http://www.cl.cam.ac.uk/coffee/coffee.html>). What does it do? Well, a video camera is aimed at a coffee pot 24-hours a day, which means you can check the pot to see if it's full or not. Useless, you say? Not if you have to walk up 4-floors only to find an empty pot. So why don't they just put a pot on the first floor you ask? Well, remember, this is Cambridge, not Oxford.

A little ways away at **York University**, John Tuffen has a camera aimed out the window where you can see some of the buildings around campus (<http://www.york.ac.uk/~jat5/html/cap.html>). And check out **Droskyn Point** (<http://www.oce.orts.edu:8080/pporth.html>) if you're wanting a "live" shot of the beautiful cliffs overlooking the Celtic Sea in southwest England; the camera is perched on top of a youth hostel near the small town of Perranporth, my favorite part of England.

For a listing of other Web-CAM's in Great Britain and worldwide, go to Kat's Live Kams: <http://www.teleport.com/~kdriek/cameras.htm>

BRITISH HUMOR

If you're a Royal Watcher, the alt.talk.royalty newsgroup is a lot of fun and if you're dying to find the mailing address for actress **Sinead Cusack** or her skin-and-bones husband, Jeremy Irons (that lucky dog), post a note in the alt.fan.british-actors newsgroup and you'll probably get a reply the same day. Remember, newsgroups are great places to go to "find" people with similar interests. Grab their e-mail address and ask them to meet you online some night for a chat about the issues of the day. Here's a complete list of the UK newsgroups that should be available on your server:



BRITISH NEWSGROUPS

alt.comedy.british
alt.fan.british.accent
alt.fan.british-actors
alt.politics.british
alt.scottish.clans
alt.talk.royalty
clari.world.europe.uk
rec.music.celtic
soc.culture.british
soc.culture.scottish
soc.culture.irish
soc.culture.welsh
soc.genealogy.uk+ireland
uk.jobs.offered

TIP OF THE BOARDWATCH HAT TO:

Olivier M.J. Crepin-Leblond is a name that you may have run across in your attempts to find out what countries around the world have full Internet access or at least can be reached by e-mail. Since 1992, C-L has maintained an **International Internet Connectivity**



WILL'S TOP 10 UK INTERNET SITES:

Directory to keep us Netheads informed as to who's online around the world. He collaborates with **Randy Bush** and **Steven Huter** who maintain a similar site here in the U.S. (<http://www.nsrc.org>). C-L lives in London, and has just completed his dissertation at Imperial College London on a very hot topic: "Reduction of Delay in Asynchronous Transfer Mode Networking." <http://www.ee.ic.ac.uk/misc/country-codes.html> or <mailto:ocl@gih.com>

Craig Cockburn (pronounced "Coburn") is the author of the **soc.culture.scottish** FAQ and you'll see his messages posted frequently in the **soc.culture.scottish** newsgroup. If you're needing help and want to know something about Scotland, Craig is the person to ask. A copy of his FAQ is available at <http://www.scot.demon.co.uk/scotfaq.html>. Dave lives with his family in Edinburgh, Scotland. [Mailto:craig@scot.demon.co.uk](mailto:craig@scot.demon.co.uk)

Gordon Dick maintains the **Tartan Pages** at <http://www.scotweb.co.uk/tp> which is a well organized "Yellow Pages" directory for Scotland. Hit the "People" button and Dave gives you not only the e-mail addresses of people throughout Scotland, but what they do and where they live. Nice. You could spend days at this site trekking around Scotland. He also includes the e-mail address of the **Members of Parliament** (MPs) for those of you so inclined. Gordon is a student at the University of Edinburgh, majoring in Computer Science. [Mailto:Gordon.Dick@ed.ac.uk](mailto:Gordon.Dick@ed.ac.uk)

Dave Stanworth's Games Domain site at <http://www.gamesdom.co.uk> started out as a "hobby" and then quickly grew into one of the hottest sites on the Internet. Dave, along with his wife Jane, have formed their own company (Kaleidoscope Networks Ltd.) and live with their family in West Midlands, England. [Mailto:djh@gamesdom.demon.co.uk](mailto:djh@gamesdom.demon.co.uk) ♦

Cyberia Cafe

(chat and discussion forums):
<http://channel.cyberiacafe.net>

UK Yellow Pages Directory

(plan to spend the day)
<http://www.yell.co.uk>

Genealogy of the

British Royal Family

(includes pictures and sound clips!)
<http://www.dcs.hull.ac.uk/public/genealogy/royal/catalog.html>

Belfast Telegraph

(Northern Ireland's most colorful newspaper)
<http://www.belfasttelegraph.co.uk>

Great Britain Travelogues

(from the people who have been there)
<http://www.digimark.net/rec-travel/europe/uk>

Gateway to Scotland

(Everything's here, including the Loch Ness Monster)
<http://www.geo.ed.ac.uk/home/scotland/scotland.html>

Wales: A Grand Tour

(Was that Anthony Hopkins?)
<http://www.ihl.aber.ac.uk/wales/wales.html>

Northern Ireland

Internet Directory

(Go meet the Irish!)
<http://www.niweb.com>

The Castles of Scotland

(complete with photographs and narrative)
http://www.scotland.net/toptens/castles/tt_castles.htm

North Wales Internet Home

Page (get to know the Welsh; e-mail directories and more)
<http://www.nwi.co.uk>

United Kingdom Internet Magazine

by David Hakala

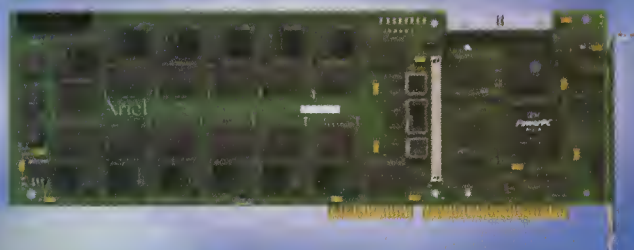
Internet Magazine, published by Emap plc group, is a monthly print magazine reminiscent of **Boardwatch**. Its Web site at <http://www.emap.com/internet> includes daily news updates with a strong UK and European slant. You can learn which UK Internet Service Providers are gobbling up others, where to find Russian President Boris Yeltsin's Web site, the size of the UK college student Internet access market, where to find a cybercafe in Brighton, and scads more about our cyberbrethren across the Atlantic.

The site features **The Internet Directory UK**, claimed to be the largest directory of United Kingdom web sites; links to European Internet resources such as the **Euroseek** (<http://www.freeseid.se>) and EuroFerret (<http://www.muscat.co.uk>) specialty search engines; demographic studies of UK Internauts and information "have-nots;" and even a European calendar of Internet-related events, trade shows and educational programs.

We get the print edition here at the office, and it's rather eerie, deja vu reading. The Brits don't like their telco any more than we like our RBOCs. The BCC and British Telecom are trying to get into the Internet access business, and the ISPs are crying foul. Spam is a major irritant in the UK, which ranks behind South Korea as the largest consumer of SPAM™ outside of the United States. The full text is not available online, so you'll have to subscribe to get the whole story. UK only: **£15.00**; Europe/Eire: **£34.95**; Rest of the world: **£59.95**. You can subscribe online from any of the Web site's pages, or try **Internet Magazine Subscriptions**, EMAP Readerlink, Audit House, Field End Road, Eastcote, Ruislip, Middlesex HA4 9LT, UK. Fax number 0181 429 3117 (+44 181 429 3117 from outside the UK). ♦

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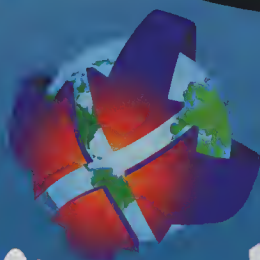
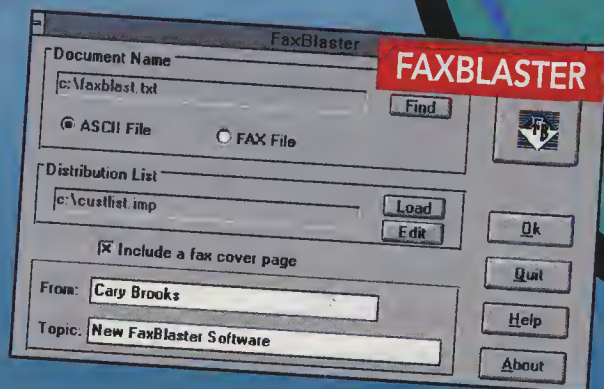
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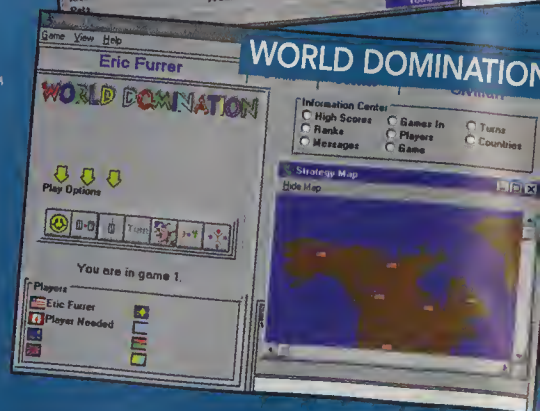
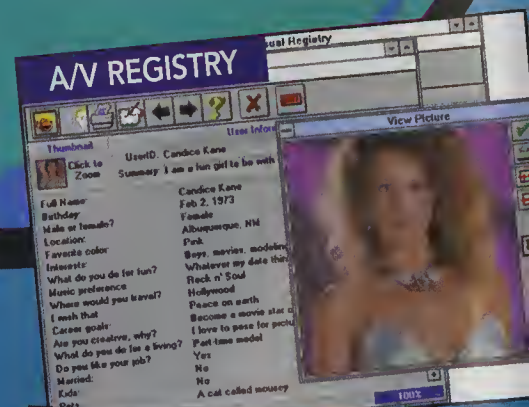
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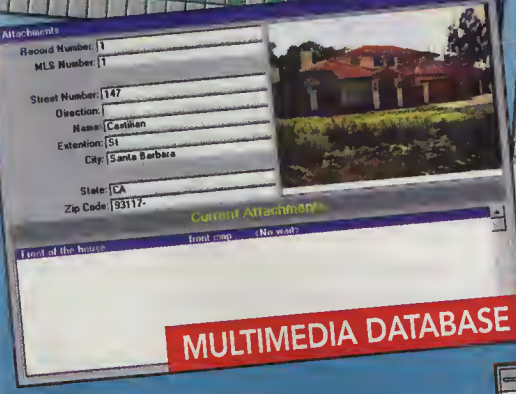
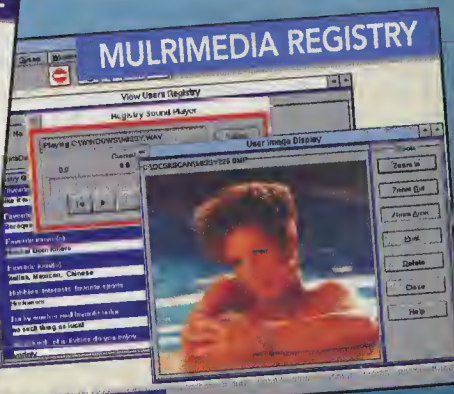
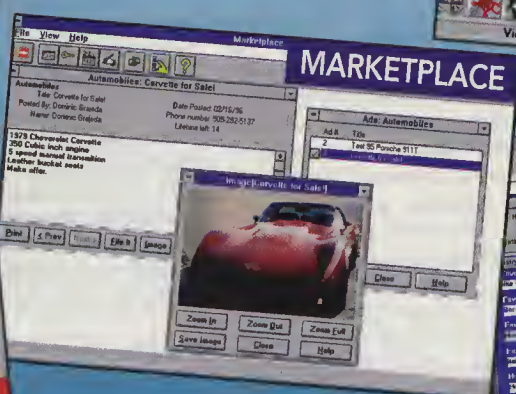
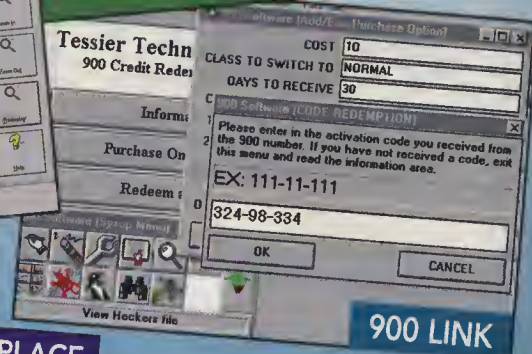
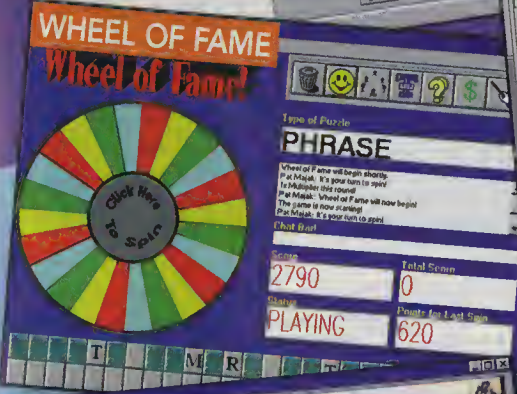
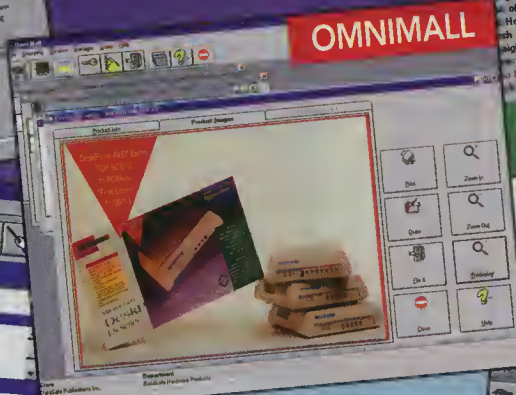
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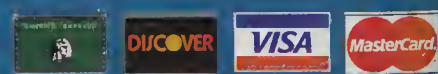
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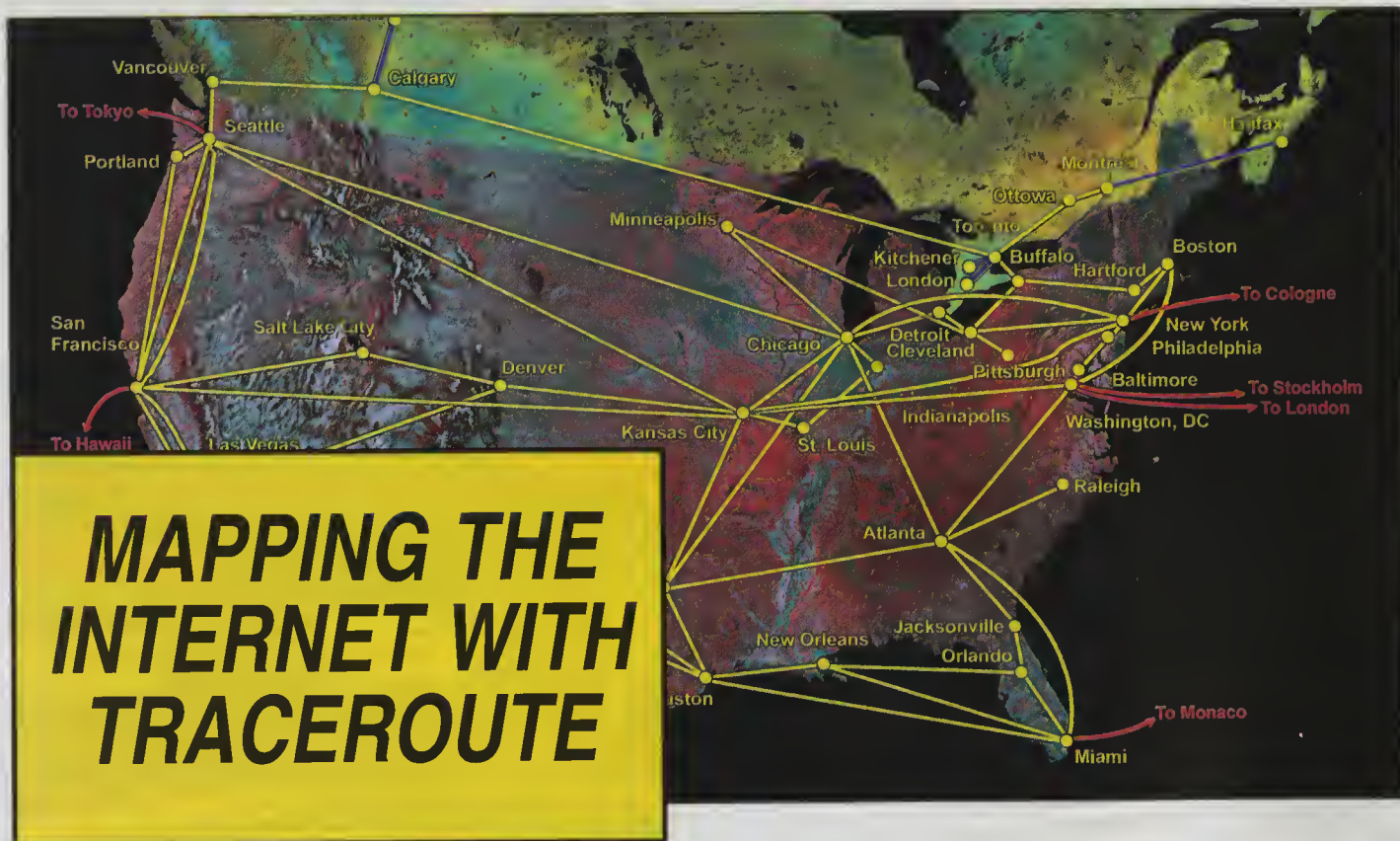


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by Jack Rickard

Probably the least glamorous software program on the Internet today is a program titled **TRACEROUTE**. It's almost universally available, it comes in almost every operating system including the ever more ubiquitous Windows95. But, as part of compiling our Boardwatch Directory of Internet Service Providers, we recently began to ask ISP's for our directory where **THEY** got **THEIR** connection to the Internet. We were surprised to have several of them actually tell us that their connection to the Internet was "proprietary" and that they didn't want anyone to know from who or topographically how they got their connection. We found this a bit bizarre in that anyone can run a **traceroute** and tell in some detail a number of things about the connection within seconds. In the hoopla over the World Wide Web and the many client/server tools available, in some cases the basic knowledge of such common tools as **traceroute** and **ping** has somehow been missed. Then too, there has been some recent developments with traceroute that make this a **NEW** tool in some interesting ways.

So despite it's rather nakedly plain heritage and operation, perhaps it would actually serve some purpose to do an article on **TRACEROUTE**. **Traceroute**, in its most basic form, allows you to print out a list of all the intermediate routers between two destinations on the Internet. It allows you to diagram a path through the network.

Why would you want to do that? We can think of a number of reasons. First, almost everyone connected to the Internet has some curiosity about what they are connected to. A **traceroute** from your desktop machine to almost anywhere else will provide a listing of each machine between you and the destination - essentially diagramming in the first three to five lines **YOUR** connection to the Internet.

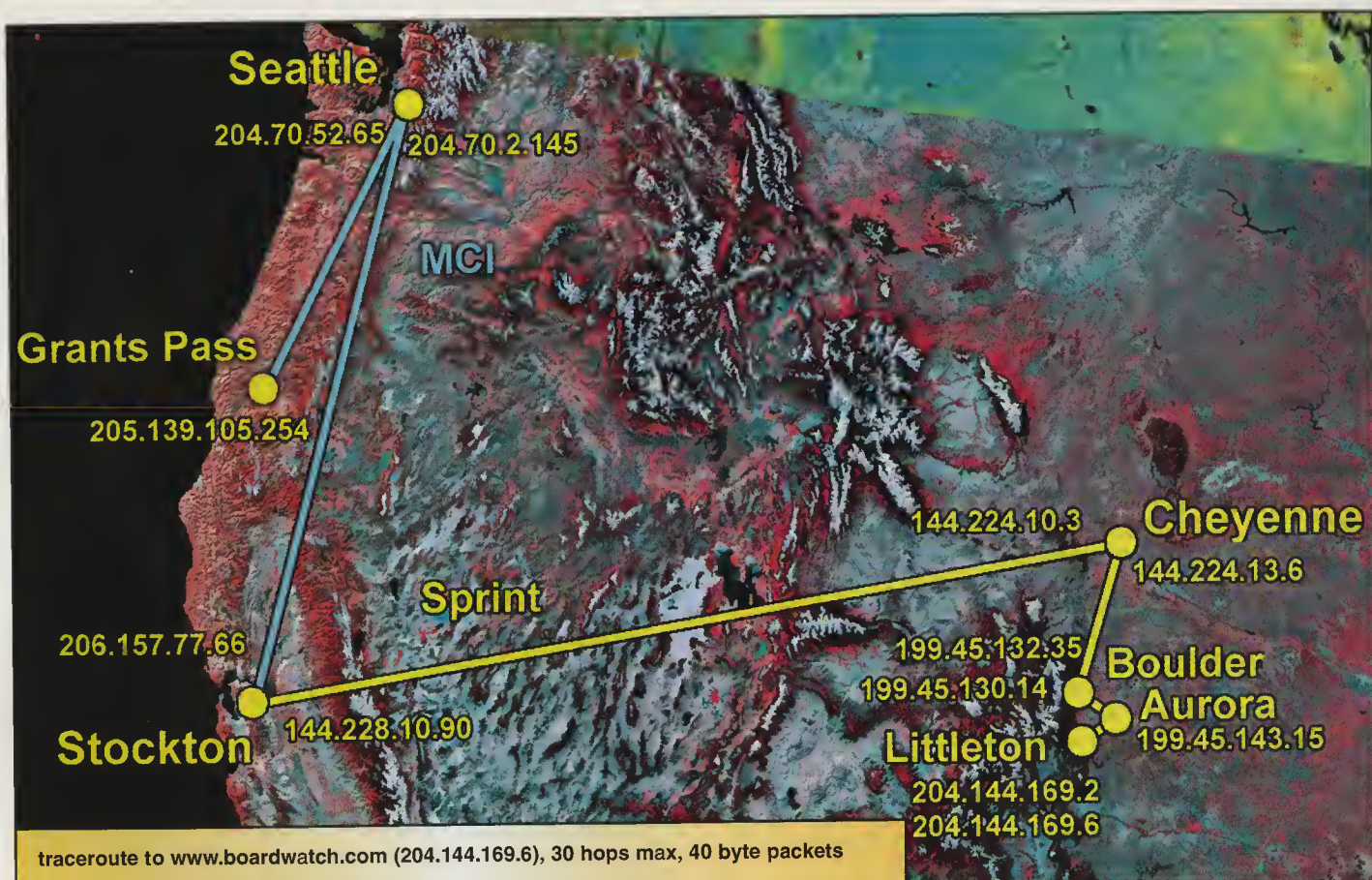
Secondly, many individuals and companies are setting up their own servers of one form or another - typically a web server. Once

set up, if the 50 million people alleged to be on the Internet, or even the fifteen million who actually are don't show up, you might want to check to see if any of them **CAN** make the connection. Despite the ubiquity of the Internet, we are increasingly finding sidespurs to the net where "you can't get there from here - you have to go somewhere else first." You might be surprised to learn that your web site is **ONLY** available to people on Sprint's backbone, but not on the AGIS backbone, or on the internetMCI backbone, but **NOT** to those on the Sprint backbone. I'm assured this doesn't actually happen of course. But on the off chance that my ravings are not purely hallucinatory, you might try a few traceroutes to see for yourself.

The ability to make the connection to your web site is a function of proper connectivity across the network. But it is also a function of the efficiency of the domain name server system - a system that is growing increasingly creaky and quirky in operation as it grows without limit, and more importantly without any mechanism for cleaning up all the little DNS messes of the past. Companies come and go, web sites come and go, but DNS is apparently forever as essentially no one ever goes in and cleans any of it up.

In any event, getting a domain name assigned and putting up a server may be the right moves, but you might want to actually check to see if you are available from different backbones and locations. **Traceroute** will show you with some confidence the path through the network, and it looks up each machine along the way, including yours, in the DNS structure. If you can **traceroute** to a site, you can almost always connect to a web server there.

Finally, in selecting an Internet Service Provider, backbone connection, or a service to host your web site, many savvy Internauts like to check out the connectivity of the site and precisely how it is connected to whom where. A bit of thought and the **traceroute** program will actually allow you to get a pretty good idea.



1	205.139.105.254 (205.139.105.254)	4.405 ms	6.266 ms	2 629 ms
2	border1-serial3-5 Seattle mci.net (204.70.52.65)	21.628 ms	21.056 ms	31.816 ms
3	core1-fddi-0 Seattle mci.net (204.70.2.145)	16.701 ms	18.725 ms	21.598 ms
4	* * sl-stk-1-H9/0-T3.sprintlink.net (206.157.77.66)	36.615 ms		
5	sl-stk-1-H9/0-T3.sprintlink.net (206.157.77.66)	34.934 ms	40.946 ms	74.192 ms
6	sl-che-1-H2/0-T3.sprintlink.net (144.228.10.90)	55.085 ms	55.506 ms	55.157 ms
7	sl-che-3-F0/0.sprintlink.net (144.224.10.3)	55.863 ms	56.454 ms	58.791 ms
8	sl-cica-2-H0-T3.sprintlink.net (144.224.13.6)	68.133 ms	58.324 ms	80.837 ms
9	gw2.boulder.co.coop.net (199.45.132.35)	66.01 ms	69.084 ms	61.033 ms
10	199.45.130.14 (199.45.130.14)	67.436 ms	70.048 ms	69.716 ms
11	199.45.143.15 (199.45.143.15)	68.246 ms	70.162 ms	91.696 ms
12	t1.boardwatch.com (204.144.169.2)	77.907 ms	75.371 ms	77.696 ms
13	www.boardwatch.com (204.144.169.6)	81.938 ms	84.054 ms	74.27 ms

DOS window. Drop to a DOS window and enter **TRACERT BOARDWATCH.COM** to get essentially the same results.

In the example above, the first machine encountered was **205.139.105.254** in Grants Pass, Oregon. The machine failed a reverse domain name lookup and so only the IP number is listed. This is actually a traceroute from a web server in Grants Pass TO **www.boardwatch.com**.

Traceroute was originally written by Van Jacobson of Lawrence Berkeley National Laboratory (van@helios.ee.lbl.gov) and the **traceroute** code is still freely available from version 1.0 through version 1.3.2 at <ftp://ee.lbl.gov/old>. The program derived from a conversation with Steve Deering of Stanford University in 1988.

In it's simplest usage, **traceroute** is simply a command line program where you enter a domain name:

```
traceroute boardwatch.com
```

This results in a list of routers between your site and the entered domain with the first router encountered at the top of the list, and the destination domain machine at the bottom. At each site, both the name and IP number are listed, along with typically three timing values that indicate round-trip packet propagation times.

In Windows95, **traceroute** is renamed **TRACERT** for reasons only apparent to Microsoftians. It is also only available from a

The second machine is a border router of MCI's network in Seattle where we join MCI and machine three is one of the MCI core backbone routers in Seattle. In machine four, we connect to Sprint in Stockton California. It's worth noting that we did not go through one of the NAP's apparently such as the PacBell SF NAP or MAE-WEST and so we've most likely discovered a private peering exchange between Sprint and MCI in Stockton California. The concept that all connections between private backbones exist at one of the four NSF funded Network Access Points or NAPS is simply erroneous at this point with hundreds of such private NAPS between two carriers cropping up all over the country at any target of geographic proximity/opportunity.

At lines 6 we pass through what looks like a Stockton router where the interface is designated Cheyenne. At line 7 we enter Sprint's hub facility in Cheyenne and line 8 is the exit point on the way to Colorado Internet Cooperative Association, also known as the Boulder COOP in line 9. Line 10 appears to be a Boulder Coop router. In line 11 we go through an unidentified machines, actually at eSoft, Inc. in Aurora Colorado.

Line 12 is a T-1 connection to our gateway router here at Boardwatch and line 13 is the **204.144.169.6** machine we use as a web server on our LAN.

Note the time indications for each line - three time values in milliseconds. These are roundtrip times for each leg, not sums, differences, or otherwise related to each other. From Grants Pass to Littleton, across two major backbones, and BACK looks like about 82 ms, 84 ms, and 74 ms for the three packets involved. Not bad actually. The point is, times are complete roundtrip times for packets to THAT router on THAT line and are unrelated to anything on previous or subsequent lines. Traceroute is a relatively low priority service on most machines, and as such isn't really a very good indicator of roundtrip times. The PING program actually works slightly better for that purpose.

That said, you CAN derive some indication of how busy the Internet is from examining these traceroute roundtrip times. If the three times on any one particular line are fairly close together, this indicates some consistency between the packets. If they are more variable, it usually indicates some dynamic change in traffic levels between the three packets. Similarly, if you get a relatively good time roundtrip to one router, while the very next machine gives a very poor series of times, and then the times are pretty good again on the NEXT router, you are seeing some traffic surges on the network. Smaller pipes tend to be somewhat more sensitive to such traffic surges, while larger ones tend to be a bit more forgiving.

HOW TRACEROUTE WORKS

Traceroute wasn't really designed as any of the normal control message elements of any protocol. It is actually a small program that relies on some predictable response activity of routers and servers on the Internet.

Routers receive Internet Protocol packets, and in fact packets of other protocols of various sizes and flavors, and in most cases simply pass them on. A router will have several interfaces usually. It receives a packet in one interface, opens the packet to find the DESTINATION ADDRESS, and then does a lookup in a routing table to determine which of its other interfaces (to other routers) is the best place to "route" the packet. In basic operation, it's actually not a terribly smart device. To a router with three interfaces, for example, the entire global Internet falls into three categories - Interface 1, Interface 2, and Interface 3. The Interfaces can be serial ports, ethernet cards, V.32 ports, or a specialized smoke signal rapidly-flappable-wet-blanket (RFWB) interface device. It doesn't matter. Open the packet, decide which port, and mail the puppy. In almost all cases, a router is the ultimate finger pointer - "This packet is somebody else's problem, and I'll pass it out port X for them to deal with."

In the early days of TCP/IP networks, it was discovered pretty quickly that if you sent out a packet and there was some configuration anomaly in a single router in the network, you could create a routing loop where packets could enter, but they would never get back out. The packet would simply move from one router to another in a circle. These packets would accumulate in the network quite quickly and seriously slow things down for those packets that were actually going somewhere.

The solution was the addition of an 8-bit **Time-To-Live (TTL)** field in the Internet Protocol packet header. The sending machine could set this to any value between 0 and 255. Each router that handled the packet decremented this value in the packet header by one when it passed on the packet. If it received a packet that had a TTL of 0 or 1, instead of passing on

the packet, it killed it. In this way, after a set number of "hops" through routers, in no case larger than 255, a packet died and was removed from the network. In practice, TTL is the maximum number of hops a packet can transit before death. The 255 hop total is also the maximum "span" of the Internet today. If you are more than 255 hops from anywhere, you can't get there from here using the existing Internet Protocol.

When a router kills a packet, it also sends out an **Internet Control Message Protocol (ICMP)** error message to the packet originator address indicating **TIME EXCEEDED IN TRANSIT**. This message contains the IP address of the router sending the error message, as well as the address of the machine that sent the original IP packet and any of the original packet contents.

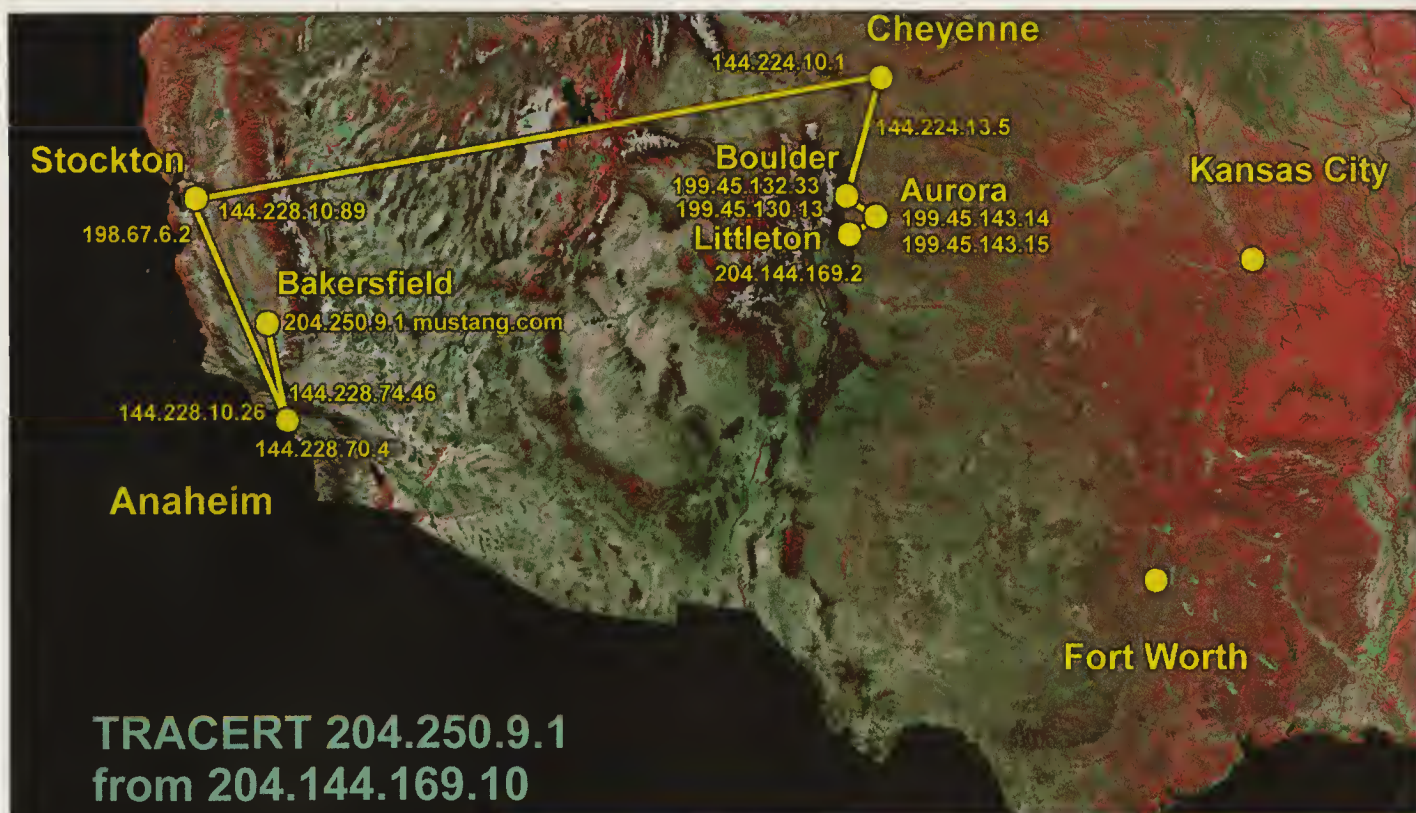
Traceroute takes advantage of these two predictable reactions. When you enter **TRACERT WWW.BOARDWATCH.COM**, traceroute first does a DNS lookup of **WWW.BOARDWATCH.COM** to get the **204.144.169.6** IP address. It then uses the somewhat more efficient **User Datagram Protocol (UDP)** to create three small, typically 40 byte, packets containing the originating address, the destination address, and a time stamp of when the packets were created. It sends out **three** of these packets with the TTL value set to 1. These packets arrive at the first router in the path to Boardwatch and that router immediately decrements the TTL, notes that it is now **zero**, and issues an **ICMP TIME EXCEEDED IN TRANSIT** error message back to the sending machine - including the original time stamp and the IP number of the router sending the error message. The original machine that sent out the three packets receives this ICMP error message and notes the time of receipt, as well as the IP number of the router that sent it. It then examines the time stamp information returned inside the ICMP packet. It can then calculate the difference between the time stamp information sent, and the time the ICMP packet was received. This is how it calculates the round trip transit time in milliseconds.

Traceroute then extracts the IP number of the machine issuing the error message and does a reverse DNS lookup to retrieve the name of the machine. It prints a sequence number, in this case 1, followed by the name of the machine, the IP number of the machine, and the round trip time for each of the three test packets. The "first" machine in route is now diagrammed.

Traceroute then increments the **TTL** to 2 and sends out three more packets with new time stamps in them - again addressed to **204.144.169.6** - still the ultimate destination. The first router in the path receives the packet, decrements TTL from 2 to 1 this time, and since TTL has NOT expired, passes the packets on to the NEXT router in the path. THAT router now decrements TTL from 1 to 0, and issues the ICMP error messages back to the originating machine in the same way.

Tracert continues to increment TTL and send out sorties of three packets each time. Each time TTL is incremented, the packets make it to another router down the path before expiring and causing the tattletale ICMP error message that allows traceroute to identify the router. The traceroute machine will wait a fixed amount of time for a reply. If this expires, it will print a series of **ASTERISKS (*)** indicating that there is a machine there in the path, but it can't get it to respond with an ICMP error message within the default time. It then increments TTL again and continues.

When TTL reaches a value where the UDP datagram actually reaches the ultimate intended host, in this case **www.boardwatch.com**, that would normally be the end of the packet. But the host will be surprised to learn that the destination port number in the packet header is a ridiculously implausible port



TRACERT 204.250.9.1 from 204.144.169.10

number - usually 33,434 but in any case something not ever recognized as a port. Web sites usually monitor port number 80 for example while an e-mail server will monitor port 25. Port 33,434 is not only not one of the normal ports, but is not likely to ever be. So the destination machine issues an ICMP error message as well - in this case the **PORT UNREACHABLE** message. Traceroute reads this as a kind of "mission accomplished" termination.

USING SOURCE ROUTING TO MANGLE THE PATH

Traceroute can be very useful to list the default path from your site to another site and that is its most common use. However, we often use traceroute to examine backbone topologies and this at times requires some bending of the rules. We often want to run packets around in circles so to speak, and watch how they get there.

Conceptually, there are two options to UDP datagrams that traceroute can take advantage of. These are the Loose Source Route Record (LSRR) and Strict Source Route Record (SSRR) usually referred to as Loose Source Routing and Strict Source Routing. Rumor has it that Van Jacobson had both in the original 1988 TRACEROUTE and disabled them at the request of some administrators who didn't want it known how badly broken their gateways really were. We can't verify that rumor, but find it believable.

We haven't seen much in the way of traceroute variants that do the Strict Source Routing, which in theory would allow you to specify the precise path from one point to the next. But there are several that support Loose Source Routing, which allows you to indicate intermediate destinations.

Tracing route to mustang.com [204.250.9.1] over a maximum of 30 hops:

1	2 ms	2 ms	2 ms	t1.boardwatch.com [204.144.169.2]
2	9 ms	7 ms	7 ms	199.45.143.15
3	11 ms	10 ms	12 ms	t1.esoft.com [199.45.143.14]
4	18 ms	16 ms	16 ms	199.45.130.13
5	56 ms	18 ms	18 ms	gw21-backbone-1.boulder.co.coop.net [199.45.132.33]
6	23 ms	20 ms	20 ms	sl-che-3-H12/0-T3.sprintlink.net [144.224.13.5]
7	24 ms	32 ms	22 ms	sl-che-1-F0/0.sprintlink.net [144.224.10.1]
8	44 ms	49 ms	45 ms	sl-stk-1-H3/0-T3.sprintlink.net [144.228.10.89]
9	76 ms	48 ms	43 ms	sl-stk-2-F/T.sprintlink.net [198.67.6.2]
10	223 ms	224 ms	307 ms	sl-ana-2-H4/0-T3.sprintlink.net [144.228.10.26]
11	53 ms	54 ms	82 ms	sl-ana-4-F0/0.sprintlink.net [144.228.70.4]
12	62 ms	62 ms	66 ms	sl-mustang-1-s0-T1.sprintlink.net [144.228.74.46]
13	85 ms	73 ms	69 ms	mustang.com [204.250.9.1]

Trace complete.

Basically, this requires a bit more detailed description of UDP packets. In the case of LSRR, you can enter up to nine intermediate routers to define a path through the network. In most UNIX traceroutes, this is the **-g** option switch where in the Windows95 TRACERT it is the **-J** option.

To see why this might be valuable, let's take a look at a regular traceroute to Mustang Software Company (diagrammed above) in Bakersfield California.

This is a typical traceroute. Mustang is in California and like Boardwatch, is basically connected to the Sprint backbone. As you can see, we start at Boardwatch in line one, and then sequence through an in and out interface at eSoft, Inc. in Aurora. We then go to the Boulder Coop, up through two Sprint backbone routers, in Cheyenne Wyoming, and from their to Stockton California on the Sprint backbone. From Stockton, we drop down to Anaheim California, and from their to Mustang.

Note an interesting anomaly: We went through DIFFERENT routers going OUT through Cheyenne and Stockton than we did

coming IN from Grants Pass. Backbone systems can be considerably more complex than highway systems actually with multiple "lanes" for redundancy, capacity, etc. But like a highway system, you often take a different exit going north than you do going south. This also explains why roundtrip times are not terribly valuable, the route the ICMP error message takes BACK to you is unlikely to be the route the original sortie of three packets took OUT to the machine in the path. The point is, traceroute diagrams paths in only one direction. Reversing the direction often diagrams an entirely different path.

Well and good enough. But we're pretty familiar with the Cheyenne/Stockton leg. What we would like to do is find out what is going on going EAST to Kansas City from Cheyenne. We're pretty sure that Kansas City is connected to Fort Worth, but Sprint might have built a new connection directly from Kansas City to Anaheim. From previous traceroute explorations, we know there is a Sprint router in Kansas City - 144.228.10.81

TRACERT -J 144.228.10.81 204.250.9.1

Examine this command line. We are listing two IP numbers with the -J option. The rightmost number is actually our destination, 204.250.9.1, the address of the MUSTANG.COM machine. In this case, we have no interest whatsoever in this machine. We're actually trying to verify the Sprint backbone through Cheyenne to Kansas City and Fort Worth to Anaheim. A normal traceroute to MUSTANG.COM would actually go through Cheyenne, to San Francisco, and down to Anaheim. But in

this case, we want to force a path east and out the south end of the backbone. Our interest is in the backbone, and the Mustang site is a handy endpoint of known connection that we can use.

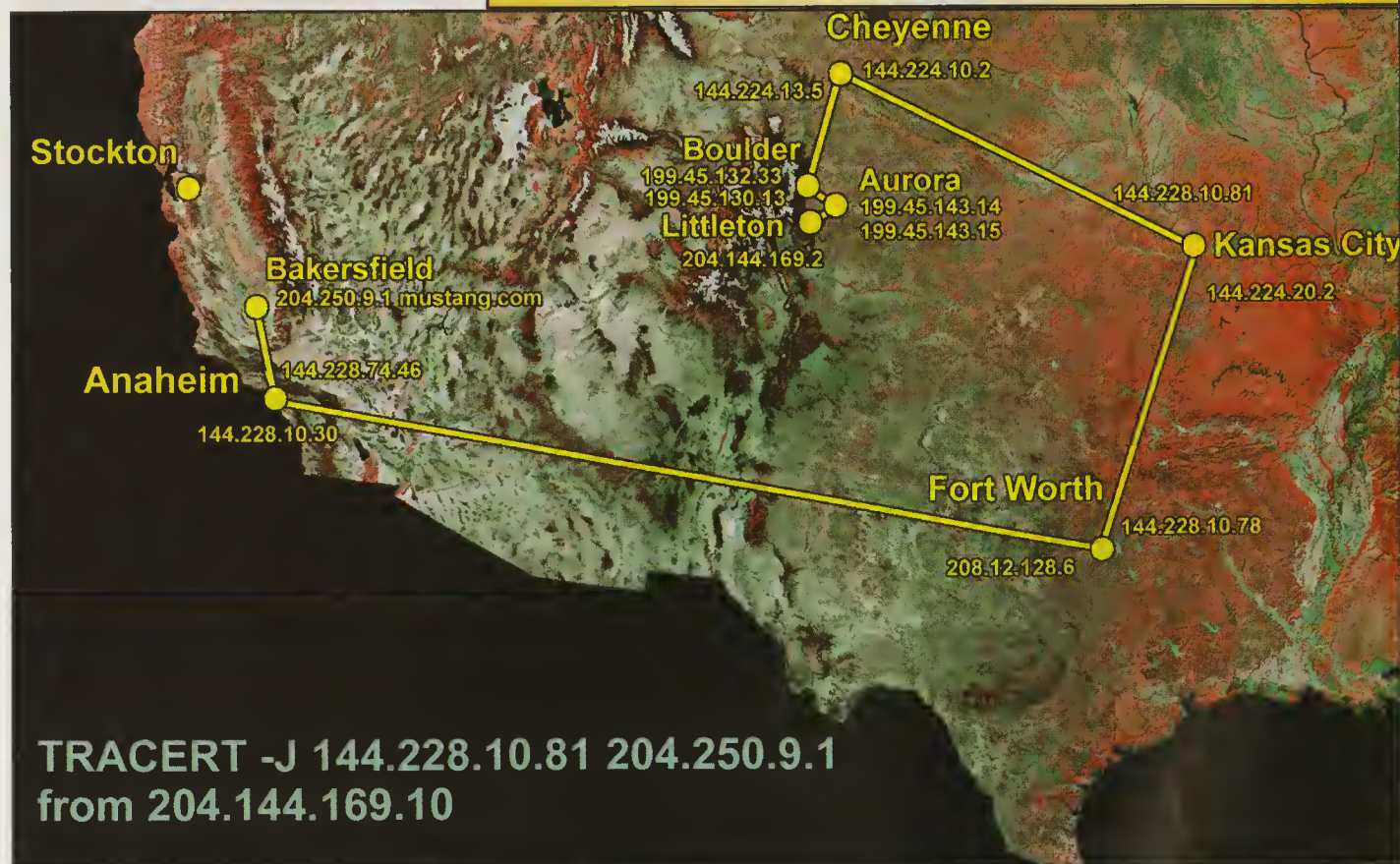
The first IP number, 144.228.10.81 is a Sprint router in Kansas City. The second is the MUSTANG.COM destination - picked only because we know it is attached in Anaheim.

In the UDP datagram, the first address is listed as a DESTINATION address, but a pointer in the datagram points to the MUSTANG.COM address as the DESTINATION address. When the router in Kansas City is finally reached, it notes the discrepancy between the pointer and the destination address. It discards its own address as destination, shifts all addresses to the left, and sends the packets on with the MUSTANG.COM address now appearing to be the destination.

Tracing route to ns.mustang.com [204.250.9.1] over a maximum of 30 hops:

1	2 ms	2 ms	2 ms	t1.boardwatch.com [204.144.169.2]
2	9 ms	9 ms	8 ms	199.45.143.15
3	12 ms	12 ms	11 ms	t1.esoft.com [199.45.143.14]
4	18 ms	18 ms	19 ms	199.45.130.13
5	22 ms	40 ms	20 ms	gw21-backbone-1.boulder.co.coop.net [199.45.132.33]
6	60 ms	214 ms	233 ms	sl-che-3-H12/0-T3.sprintlink.net [144.224.13.5]
7	253 ms	219 ms	208 ms	sl-che-2-F0/0.sprintlink.net [144.224.10.2]
8	38 ms	38 ms	38 ms	sl-kc-1-H2/0-T3.sprintlink.net [144.228.10.81]
9	42 ms	40 ms	39 ms	sl-kc-2-F0/0.sprintlink.net [144.224.20.2]
10	116 ms	252 ms	232 ms	sl-fw-5-H3/0-T3.sprintlink.net [144.228.10.78]
11	190 ms	211 ms	204 ms	sl-fw-6-F/T.sprintlink.net [208.12.128.6]
12	249 ms	257 ms	117 ms	sl-ana-1-H2/0-T3.sprintlink.net [144.228.10.30]
13	261 ms	227 ms	249 ms	sl-mustang-1-s0-T1.sprintlink.net [144.228.74.46]
14	507 ms	466 ms	480 ms	ns.mustang.com [204.250.9.1]

Trace complete



We could put up to nine intermediate IP addresses in the command line. That is all the room available in the header. As each address is reached, it is discarded and the remaining addresses shifted left one position. In this way, we can "steer" a bit through the Internet. But in practice, you have to have some knowledge of the possible Intermediate addresses.

The advantage of loose source routing is that you don't have to know ALL the routers in line as in Strict Source Routing. But the routes you enter DO have to make some sort of sense, and the ultimate destination has to make some sort of sense. But it does allow you to "steer" a bit in exploring paths through the Internet.

As we can see from the results, we can go from Boulder, to Cheyenne, and out to Kansas City. Kansas City is connected to Sprint routers in Fort Worth, and Fort Worth is connected directly to Anaheim. There is no link directly between Kansas City and Anaheim. We already knew that Mustang was connected to Sprint at Anaheim. But we've just successfully mapped the route from Cheyenne to Kansas City to Fort Worth to Anaheim. We can now use the router numbers we get from those cities, to go exploring further if we like.

TRIANGULATING THE INTERNET

Give me a lever and a place to stand and I can move the world. Actually, whoever said this was a bit off. Over and over, and in multiple fields of endeavor, we've found that you generally need THREE places to stand in this world to do anything.

On the Internet, there are many backbones, and your best source of reference is the one you are connected to. But it can be of a powerful advantage to be able to see your site, and others, from other vantage points on the Internet. As we noted, the path in one direction is rarely the same path in the reverse direction. It can be of powerful advantage to run traceroutes from OTHER locations back to US. In addition, this can verify our "visibility" from other backbones and even other continents.

Ray Davis of Carpe Net in Hofheim Germany (ray@carpe.net) has actually presented me personally with a bit of a rose in this respect and the entire Internet it would appear as well. Ray has done a small, fairly simple thing really quite well. He connected traceroute and the World Wide Web with a very simple shell script.. Anyone can run this shell script on their web and provide the world with an online traceroute function accessible from a browser.

Davis is actually from Colorado, but moved to Germany to serve as Technical Director at carpeNet Information Technologies GmbH (carpe diem - seize the day, carpe net - seize the net).. CarpeNet is connected to the central hub of one of the fastest and most extensive European networks (Nacamar/www.nacamar.net). And soon they'll be one of the highest bandwidth ISPs in Europe - with a 10 Mbps ethernet link into the new MAE-Frankfurt building - destined to be a major European NAP. They hope to develop some business as a European mirror site for popular U.S. web sites and they seem to be making some interesting moves in getting there. <http://www.carpe.net/index.html>

In any event, Ray wrote a little bit of an HTML script and a Common Gateway Interface (CGI) program script to allow anyone to visit his web site and run **traceroute**. In fact, you can enter ANY destination you want on the HTML form, and carpeNet's server will dutifully traceroute from their location to the entered destination and print out the results on your screen.

According to Davis: "Before we founded carpeNet, I spent over a year researching networks here in Germany and as many possibilities of connecting to the Internet as I could find. I often found myself wanting to trace the route not only from where I am but from other places back to me or from other places to other places. This way I could figure out how various nets were utilized, who was peering with who, how logical their routing was and something about their performance.

"Some months later, after carpeNet was founded, I wrote a simple **sh** cgi script and put an ISINDEX web page in front of it. Then I send a message to the inet-access mailing list asking if anybody else thought it was useful to be able to **traceroute** from elsewhere via a web page. I also included my traceroute URL and told everyone to pick up the cgi source if they wanted to set up a traceroute page too.

"Quite a few people thought it was a great idea, and some of them also put up a traceroute page and announced it. A couple days later David Dennis (<http://www.amazing.com>) put up some of these URLs on a page he called Club Traceroute."

Davis work has had several interesting effects. First, you can check to see if your web site is really reachable from Hofheim Germany. This will check to see that your Domain Name Service entry has migrated through the system to Germany, and also that you are actually reachable over the network. Finally, you get to see the connections between European backbones to the U.S. and across the U.S. backbones. By selecting different end points, you can again draw some very interesting routes.

So interesting that others wanted to setup webserver traceroutes on THEIR web sites. And the more of these that go up, the more interesting and useful it becomes. The accompanying table lists 88 of our favorites located in an afternoon. If you don't feel like hand entering them, we've also put them up on a page on our web site at <http://www.boardwatch.com/isp/trace.htm>. But there appear to be hundreds available in Japan, North America, Germany, France, Belgium, Russia, Israel, Mexico, Czech Republic, Sweden, Australia, and more. Just in North America, we can now trace different sites both from and two on MCI, AGIS, UUNET, IBM/Advantis, Sprint and Sprint's overseas cooperative, Global One, which is apparently becoming ever so popular.

This growing fleet of web traceroute servers allows us to pick spots on different backbones and even different continents to traceroute FROM.

Davis has actually moved beyond CGI scripts and actually rewritten a C language **traceroute** to output HTML and BE the CGI - somewhat more efficient on the server and perhaps more secure as well.. The C language source code is available at <http://www.carpe.net/src/index.html>.

ISP's particularly are putting up these simple little pages all over the world. Soon, it would appear there will be enough of them that we will have the illusion of being able to specify BOTH ends of a **traceroute**, the source and destination. At that point, it will be fairly easy to map the Internet to any degree of specificity desired, using the common traceroute program. ♦

INSTALLING A CGI SCRIPT WEB SERVER



TRACEROUTE SCRIPT

```
#!/bin/sh
#
# trace - cgi to run traceroute using ISINDEX
#
#
# edit /usr/sbin/traceroute to point to traceroute
TRACEROUTE=/usr/sbin/traceroute
TOPSTUFF='Content-type: text/html'
<HTML>
<HEAD>
<TITLE>Boardwatch Traceroute</TITLE>
</HEAD>
<BODY BGCOLOR="#e8e8ff">
<P ALIGN=Left>
'

if [ -x $TRACEROUTE ]; then
  if [ $# = 0 ]; then
    echo "$TOPSTUFF<H1>Traceroute</H1>"
  # edit this line to match your system
  echo '<B>Perform a traceroute from www.boardwatch.com</B><ISINDEX prompt="Enter domain name to traceroute to:">'
  else
  # edit this line to match your system
  echo "$TOPSTUFF<H1>Traceroute Output</H1><B>FROM www.boardwatch.com TO \"$*"</B><P><PRE>"
    $TRACEROUTE "$*" 2>&1
  fi
else
  echo ERROR: cannot find traceroute on this system.
fi
```

The following script was written by Ray Davis of carpeNet in Hofheim Germany. To install it on a UNIX web server.

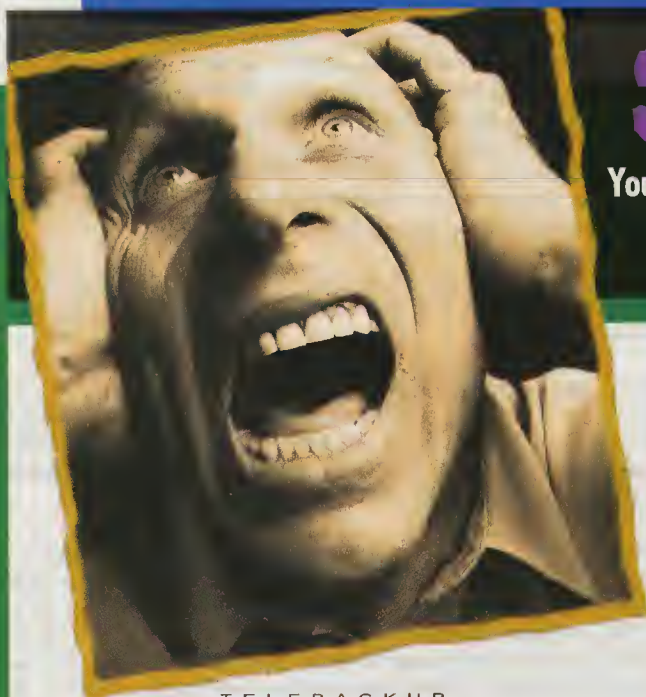
Edit the script with an editor to indicate your site information instead of BOARDWATCH for example.

Login to your system as a Super User (SU)

Place the script in the web server /cgi-bin directory under the filename traceroute.

Make the file traceroute an executable (chmod 555 traceroute)

Test with a browser to <http://yourwebsite.com/cgi-bin/traceroute>



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BOARDWATCH LIST OF TRACEROUTE WEBSERVERS

AFRICA

<http://www.cache.marques.co.za/cgi-bin/trace>

Marques Systems

Welkom, Republic of South Africa

SAIX/UUNET

AMERICAS

<http://www.getnet.com/cgi-bin/trace>

Getnet

Phoenix AZ

AGIS

<http://www.pcslink.com/cgi-bin/trace>

Phoenix Computer Specialists

Phoenix, AZ

AGIS

<http://absinthe.lightside.net/~fred/cgi-bin/nph-traceroute.cgi>

Lightside, Inc.

Covina, CA

AGIS

<http://tracer.maxim.net/cgi-bin/trace.pl>

Maxim Computer Services

Fremont, CA

AGIS

<http://bs.mit.edu:8001/cgi-bin/traceroute>

MIT Big Screw

Cambridge, MA

BBN

<http://voa.his.com/cgi-bin/trace>

International Broadcasting Bureau

Silver Spring, MD

CAIS

<http://www.cais.net/caisnet>

Capitol Area Internet Service

McLean, VA

CAIS

<http://unknown.cu-online.com/cgi-bin/traceroute>

CU-Online

Champaigne, IL

DiamondNet

<http://homer.slip.umd.edu/gateway.html>

Homer/Jan Morales

Takoma Park, MD

DIGEX

<http://nitrous.digex.net/mae/mae-lg.html>

MAE-EAST Looking Glass

Washington DC

DIGEX/MAE-EAST++

<http://nitrous.digex.net/mae/maew-lg.html>

MAE-WEST Looking Glass

Palo Alto, CA

DIGEX/MAE-WEST

<http://nitrous.digex.net/mae/sn-lg.html>

Sprint NAP Looking Glass

Pennsauken, NJ

DIGEX/SPRINT NY NAP

<http://oragete.es.net/cgi-bin/traceroute.pl>

Energy Sciences Network

Berkeley, CA

ESNet

<http://www.slac.stanford.edu/cgi-bin/nph-traceroute.pl>

Stanford Linear Accelerator

Stanford, CA

ESNet

<http://www.exodus.net/cgi-bin/nph-trace>

Exodus Communications

Sunnyvale, CA

EXODUS

<http://web.equinox.net/cgi-bin/trace-route>

Equinox Internet Services

Northport, NY

GRID.NET

<http://www.gutierrez.com/gateways/traceroute.html>

Puerto Rico Internet Newsletter

Guaynabo, Puerto Rico

GSLNET

<http://cgi.winterlan.com/cgi-bin/nph-traceroute>

WinterLAN, Inc

Berkeley, CA

MCI

<http://www.terminus.com/cgi-bin/trace>

Second Foundation

Lompoc, CA

MCI

<http://www.csu.net/cgi-bin/trace>

California State University

Los Alamitos, CA

MCI

<http://www.sfo.com/cgi-bin/traceroute>

San Francisco Online

San Francisco, CA

MCI

<http://www.dimensions.com/cgi-bin/trace>

Dimensional Communications

Denver, CO

MCI

<http://www.novagate.com/cgi-bin/trace.cgi>

Novagate Communications

Grand Haven MI

MCI

<http://www.anime.net/linuxisp/traceroute.cgi>

Anime Net

Grants Pass OR

MCI

<http://www.wiskit.com/cgi-bin/tracecon>

Kitchen Wisdom Publishing

Portland, OR

RAIN

<http://www.cmu.edu/bin/traceroute>

Carnegie Mellon University

Pittsburgh, PA

MCI

<http://www.beach.net/traceroute.html>

Dana Point Communications

Dana Point California

NCIT

<http://www.atmos.albany.edu/cgi/trace.cgi>

University of Albany

Albany, NY

NYSERNET

<http://www.frontiernet.net/cgi-bin/trace-route>

Frontier Internet Services</td> <td>

Rochester New York

NYSERNET

<http://www.above.net/cgi-bin/trace>

Above Net

San Jose, CA

SPRINT

<http://hookomo.aloha.net/hol/docs/trace>

Hawaii Online

Honolulu, HI

SPRINT

<http://www.novia.net/~rabick/CGI/club-traceroute.cgi>

Interactive Images

Omaha, NE

SPRINT

<http://www.pics.com/cgi-bin/trace-route>

Pics Online, Inc

Medford NJ

SPRINT

<http://www.tpoint.net/cgi-bin/trace>

Turning Point Information Services

Austin TX

SPRINT

<http://develop.iglobal.net/cgi-bin/traceroute>

Internet Global Development

Lewisville, TX

SPRINT

<http://paulsdesk.phoenix.net/cgi-bin/trace>

Phoenix Datanet

Houston, TX

SPRINT

<http://site.gmu.edu/~liacole/tracelou.html>

George Mason University

Fairfax, VA

SPRINT

<http://www.gsl.net/cgi-bin/traceroute.sh>

Sprint Global One

Reston, VA

SPRINT/GSL

BOARDWATCH LIST OF TRACEROUTE WEBSERVERS

http://www.ixx.net/cgi-bin/trace	Interconnected Associates	Seattle, WA	SPRINT
http://www.medicine.wisc.edu/cgi-bin/traceroute	University of Wisconsin School of Medicine	Madison, WI	SPRINT
http://www.malch.com/trace.cgi	Malcolm Hoar	Menlo Park, CA	BEST/UNNET(Alternet)
http://zeus.lyceum.com/cgi-bin/trace	Lyceum Internet	Atlanta GA	UNNET (Alternet)
http://www.netins.net/cgi-bin/trace	netINS	West Des Moines, IA	UNNET (Alternet)
http://www.ntmet.net/cgi-bin/traceroute	NTRNet Systems Inc.	Durham, NC	UNNET (Alternet)
http://www.va.pubnix.com/cgi-bin/rbox/tc	UNUNET Technologies	Fairfax, VA	UNNET (Alternet)

AUSTRALIA

http://www.cbl.com.au/cgi-bin/clubtrace	CAS Netlink	Ballarat Australian	NETCONNECT/MCI
http://portmac.midcoast.com.au/users/tony/trtest.html	Mid North Coast Internet	Australia	TETSTRANET/MCI

BELGIUM

http://www.riv.be/cgi-bin/traceroute	Riverland Next Generation	Brussels, Belgium	EUNet
http://www.bausch.be/cgi-dos/traceroute.cmd	Bausch Datacom	Belgium	EUNet/GlobalOne/Sprint
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http://www.luc.ac.be/cgi-bin/Research/LTI/traceroute	Limburgs Universitair Centrum	Belgium	BELNET
http://linux3.cc.kuleuven.ac.be/cgi-bin/traceroute	Katholieke Universiteit Leuven.	Heverlee, Belgium	BELNET
http://www.tornado.be/cgi-bin/traceroute	Tornado Internet	Aarschot, Belgium	Global ONE
http://sinistar.netropolis.be/cgi-bin/nph-trace	Netropolis	Brussels, Belgium	Telecom Finland

CANADA

http://www.trytel.com/cgi-bin/webtrace	Trytel Internet, Inc.	Ottawa, Ontario Canada	ISTAR/MCI
http://www.netrics.com/cgi-bin/traceroute.cgi	Netrics Inc.	Woodstock Ontario Canada	ISTAR/MCI
http://www.triumf.ca/cgi-bin/qtrace	National Meson Research Facility	Vancouver, British Columbia	CANET/MCI

ESTONIA

http://www.online.ee/cgi-bin/trace	Microlink Online	Tallinn, Estonia	Eunet
http://pepe.online.ee/cgi-bin/trace	Online Monitor	Tallinn, Estonia	Eunet/Global One

FRANCE

http://www.freenix.fr/cgi-bin/nph-traceroute	Freenix Users Group	Paris France	FR.NET
http://hplyot.obspm.fr/cgi-bin/nph-traceroute	Adonis Optics	Meudon Cedex France	FT.NET
http://web.cnam.fr/bin/html/traceroutename.html	Conservatoire National des Arts et Métiers	Paris, France	FT.NET
gopher://gopher.urec.fr:4320/7traceroute	L'Unité Réseaux du CNRS (UREC)	Paris, France	JUSSIEU.FR
http://www.fr.net/trace.html	Réseau de la Recherche Français	Paris France	FT.NET
http://www.efrei.fr/cgi-bin/nph-cgiwrap/parmelan/nph-	École Française d'Électronique et d'Informatique	Villejuif Cédex, France	OLEANE.NET
http://www.eu.org/cgi-bin/nph-traceroute	EU.org	Paris, France	Global One

GERMANY

<http://www.carpe.net/cgi-bin/trace>

<http://www.euromail.com/cgi-bin/traceroute.html>

<http://www.im.net/cgi-bin/nph-traceroute>

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Hofheim Germany
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Nacamar
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ISREAL

<http://www.ibm.net.il/traceroute>

<http://www.wisdom.weizmann.ac.il/misc/traceroute>

<http://julia.netvision.net.il/cgi-bin/nph-traceroute>

IBM Israel
Weizmann Institute of Science
Psion Israeli users group

Tel Aviv, Israel
Rehovot, Israel
Israel

IBM/Advantis
IBM/Advantis
NetVision-GLS

ITALY

<http://www.nap.roma.it/cgi-bin/tracer>

<http://www.unife.it/troute.html>

<http://www.fastnet.it/htbin/nph-traceroute>

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NIVERSITA' DEGLI STUDI DI FERRARA
FASTnet Internet Provider

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Italy
Torrette, Italy

UUNET (Altnet)
MCI
UUNET

JAPAN

<http://phoenix.comm.eng.osaka-u.ac.jp/cgi-bin/traceroute.sh>

<http://home.interlink.or.jp/~kumadaki/traceroute.html>

<http://www.tama.or.jp/~marin/cgi-bin/traceroute.cgi>

<http://www.vega.or.jp/cgi-bin/tracert.cgi>

Phoenix
Kumadaki
NSPIXP
internet Vega

Osaka, Japan
Japan
Japan
Japan
Cisco/BayNetwork
ILJNET
ILJNet
KDDnet/Global One

MEXICO

<http://monitor.mty.itesm.mx/cgi-bin/tracer>

ITESM

Monterrey Mexico

ANS

RUSSIA

<http://www.orgland.ru/cgi-bin/trace>

Euro Intersoft East

Moscow, Russia

Relcom/Eunet

SLOVAKIA

<http://www.sanet.sk/~vajda/cgi-bin/trac.cgi>

<http://www.vse.cz/cgi-bin/traceroute>

<http://radimpc.applet.cz/>

Technical University Zvolen
The University of Economics, Prague
AppleT

Zvolan Slovakia
Prague, Czech Republic
Czech Republic

SANET
CESnet/Ebone
IBM

SWITZERLAND

<http://www.wcs.cern.ch/wwwcs/public/ip/traceroute.html>

CERN Internet Exchange Point
- Laboratory for Particle Physics

Geneva, Switzerland

MCI

SWEDEN

<http://www.it-center.se/cgi-bin/nph-traceroute>

UMEA IT Center

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SWIPNET



LEGALLY ONLINE Lance Rose

SPA COPYRIGHT BULLIES SHAKE DOWN THE WEB

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cordially invites you

to visit NetLaw, the

Transatlantic Web

Site at [http://www](http://www.netlaw.com)

.netlaw.com, and

its first major project,

"Building a Safer

Web Site."

Large media companies have had a couple of years to contemplate the Web since it heated up back in 1995. The Big Fear then was losing their shirts overnight. They expected illegal copies of every hit and bestseller to ricochet across the Net by the millions, and that they would be helpless to combat the piracy.

It never happened, of course. Certainly there is piracy on the Net, but business in books, software, videos and other media is stronger than ever. There is also a vast, growing sea of encryption and security products. Even the most paranoid about Internet insecurity will be able to hawk their products online without losing a wink of sleep over piracy.

Enter the Software Publishers Association (SPA), formed sometime in the mid-80's, and dedicated to keeping software piracy paranoia at a fever pitch. In its first major anti-piracy move on the Internet, it recently sued three companies in the Web hosting business over supposed piracy occurring at other points on the Web. In order to understand this event better, let's consider the SPA more closely.

THE SPA BULLIES

The SPA is the software industry's anti-piracy bully boys. You may have seen their ads and billboards, promising that if we copy software without permission, we also qualify for "free hardware" pictured as a set of handcuffs. The SPA has no patience for wimpy appeals to ethics or conscience. They go straight for the jugular. By tying software piracy to jail time in our minds, they bludgeon our hearts with lead pipes of cold fear.

The free hardware ads exemplify one of the SPA's primary tools: disinformation tactics. Many SPA targets are large companies, whose employees commit so-called "casual infringement" by giving extra copies of software to office mates without paying new license fees. Such activities give rise to lawsuits against the employers for money damages, but rarely do they trigger the criminal provisions of copyright law. The SPA's implication of jail time for casual infringers is thus literally false, but the SPA never met a useful false innuendo it wouldn't deploy in the name of anti-piracy "education." If scaring us all to death through ads and propaganda does the trick of deterring software infringement, they'll keep at it until the last software pirate is dead.

Several years into their war against the software pirates, the SPA's engine sputtered. It had made its point about casual copying, convincing corporate America to embrace the call to copyright arms. Human resources departments across the country added the SPA's miserable mantra, "don't copy that floppy," to their employee policy manuals. The SPA's biggest cause became mere survival, when several of its biggest members (including Microsoft) departed to form a competing bully boy group, the Business Software Alliance, and promptly stole the SPA's thunder with an initiative to stop software piracy in other countries. The SPA was reduced to idly amusing itself by busting the occasional pirate "warez" bulletin board. Then, just as it was on the ropes, the SPA found an opportunity to rejuvenate itself on the Web.

"The SPA never met a useful false innuendo it wouldn't deploy"

With its vague floating fears of uncontrollable piracy, the Web is the perfect new virtual playground for bully boy SPA. It got to work quickly, deploying its statistics drones to tell us that if software companies don't move decisively against online piracy, the entire software industry will soon be dead meat. It looked at the wonderful "linking" site-to-site capabilities that define the World Wide Web, and saw instead a devil's nest of easy access to software piracy. It found a new mission to "educate" through fear about the evils of software infringement. This time, its

audience is not genteel, casual corporate infringers, but Netheads, many of them unruly youngsters spoiling for a round in the mosh pit with old school authorities like the SPA. All the better for the SPA. How could they credibly maintain king bully status without a good stiff challenge now and then?

The SPA showcased its first, very public Web anti-piracy push in September, 1996, sending letters to a number of Internet presence providers (IPPs) accusing them of a novel form of copyright infringement. How novel? Let's see if it fits in one sentence: the SPA told the IPPs that they were infringing software copyrights, because Web sites they hosted (that were operated by their customers) contained hypertext links to other Web sites that they didn't host, and on those outside sites might be found either pirated software, or "cracker tools" that could be used by individuals visiting those outside sites to create illegal software copies. Whew! The IPPs were therefore guilty of "contributory copyright infringement." Unless, of course, they adopted a SPA-approved strict monitoring program, to make sure their hosted sites did not put in links pointing visitors to the supposed pirate sites. The SPA announced that about 25 IPPs agreed to its

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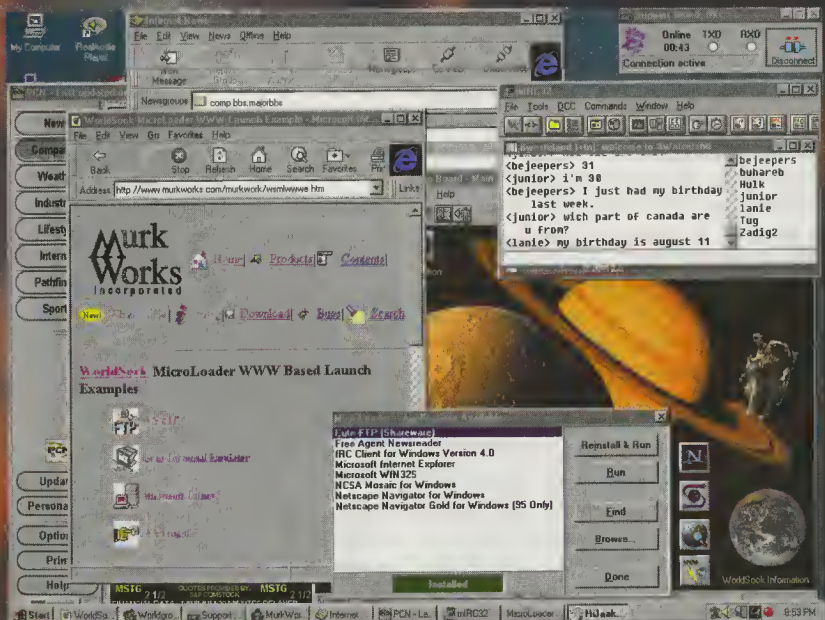
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monitoring policy immediately, and that it sued three others who didn't toe the line: Community ConneXion, Tripod, and GeoCities.

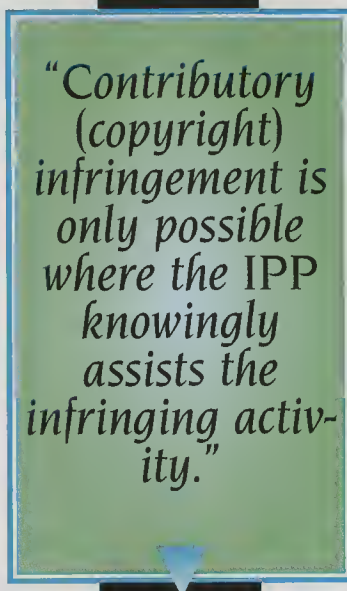
This is the SPA's version of anti-piracy "education" on the Web. It is an astonishing thing to try and take seriously. Their software infringement theory is not something we all ought to know about, but a rambling fabrication cooked up by paranoid minds working overtime. Holding IPPs legally responsible for piracy by outsiders visiting outside Web sites doesn't make the least ethical sense intuitively. It does make a lot of non-pirate companies responsible for the acts of entirely unrelated software pirates.

Worse, it is another example of the SPA's expert use of spreading false information about the workings of copyright law. The SPA claims the IPPs are guilty of "contributory" infringement by not monitoring their own systems to prevent links to possible copyright infringers. Copyright law, however, holds that contributory infringement is only possible where the IPP knowingly assists the infringing activity. This contradicts the SPA's suggestion that monitoring for unknown links to software pirates is necessary to avoid legally contributing to the infringement.

No, the SPA is not entirely mad. There does appear to be some method behind it all. By instilling fear and paranoia about software piracy among innocent Internet players, the SPA is probably trying to force software piracy underground and to the margins, far away from the mainstream of authorized commercial software activity. If, as the SPA maintains, merely linking to an infringing site is an act of infringement, then if the SPA has its way it will soon become very hard to find links to software piracy sites, or even sites that merely provide access to software tools that remove copy protection. Those who seek such materials will have to stay intimate with others involved in software piracy to the point of arguably being part of a criminal conspiracy to violate copyright laws. Finding illegal software copies would become so risky and hard that most people wouldn't bother. Much of the SPA's Web anti-piracy agenda would then presumably be accomplished.

That doesn't sound like a bad goal. The problem is how the SPA gets there: by terrorizing innocent players on the Net, and using their desire to escape the SPA spotlight as a way of attacking the true infringers by proxy. There is a much more courageous route available to the

SPA: go directly after the software pirates, and leave innocent Web players out of it. True, this is a lot more work, but it can also be a lot more rewarding. The SPA could be a rightful hero, and Web hosts and operators could go about their business, worrying only about infringements on their own sites, and not everyone else's.



What happened to the three sites that were sued? According to vague reports as we go to press, it appears Tripod, and GeoCities folded, and agreed to follow the SPA's monitoring policy rather than go to court. Only Community ConneXion held out, stating as a matter of principle that they simply would not take responsibility for unknown links to unknown infringements on the Web. Surprisingly, the SPA agreed to withdraw its suit against them also, but promised that if Community ConneXion's monitoring proves inadequate, they will be back with another lawsuit against it.

EVERYONE DRAGS THEIR BAGGAGE TO THE BALL

The SPA's debut attack on Web piracy dragged out a number of other players on the Net, making for a very rich interplay: the software companies themselves, the Netheads, and the civil liberties groups. These other groups are perhaps not as outrageous as the SPA, but they certainly bring their own agendas and baggage when it comes to software piracy on the Net.

Is it surprising to see software companies mentioned as players in their own right, when they supposedly use the SPA to act against pirates? Maybe so, but the legal complaint against Com-

munity ConneXion was filed by Adobe Systems, Inc., Claris Corporation, and Traveling Software, while the SPA was not even a plaintiff. A bigger surprise occurred when reporters called Adobe about the lawsuit. Adobe swore it was some kind of mistake; it had no desire to sue Community ConneXion. Then why was its name on the lawsuit? It's the lawyers' fault, responded Adobe. Oh, we get it: if you need an excuse, blame your lawyers, and everyone will understand.

What really happened was Adobe found itself facing a fast-closing public relations disaster, unless it denied all involvement with its own lawsuit. Like many other software companies, these days Adobe is battling to establish a proprietary technology as a standard on the Internet: in Adobe's case, the Acrobat document format. To win the day, Adobe needs to win the hearts and minds of influential Internet players, including Internet service providers. If the name Adobe was to become associated with lawsuits attacking Internet businesses, it would give Adobe's potential Internet supporters a reason to support anything but Acrobat. Adobe apparently forgot the iron rule for SPA members: let the public see only the SPA doing all the dirty work, so its software company members don't get blamed for its overbearing tactics. As soon as Adobe recovered from its anti-piracy pique and regained its senses, it put plenty of distance between itself and the ill-advised, bad for business SPA lawsuit. As the Wizard of Oz said, "don't look at the man behind the curtain."

Next group up is the Netheads. This term is used loosely (and non-pejoratively) here, to refer to those people and companies who are immersed in the Net, in contrast to the ignorant corporate hypesters who think the Internet is some kind of crude still-picture TV system. Netheads (including Community ConneXion, the one defendant who didn't cave in to the SPA) care deeply about Internet principles, rights, ethics and grand themes, though they usually don't all agree in their views. The fight to overturn the Communications Decency Act was some kind of high-water mark for agreement among the Netheads, who found common cause in rallying against a stupid regulation that would burden the entire Net to satisfy the moral whims of a few lazy parents who can't control their own kids.

The SPA's suit achieved the rare feat of giving the broad range of Netheads something new to agree about: overzealous copyright owners should just stay off the Internet. There are actually a hodge-



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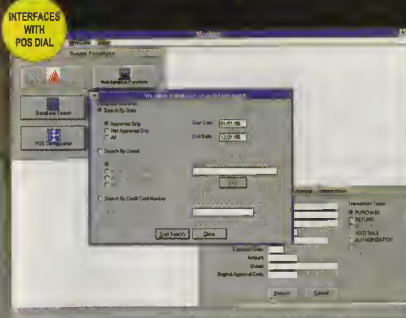
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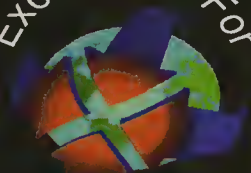
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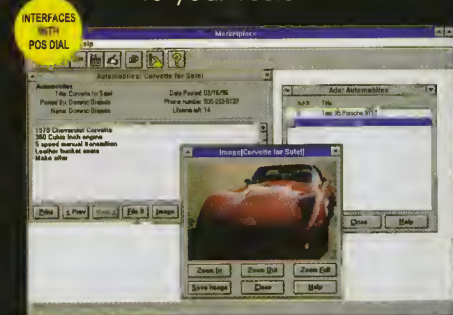


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podge of views there: those who believe "information wants to be free;" those who, like the League for Programming Freedom, believe that software in particular should not be kept from the public through the use of intellectual property laws; those who believe old-line, physically-based property owners should recognize a new, more fluid order on the Net, in which data flow overrides a lot of old property concepts; and those who actually think copyrights are okay, but don't want their online businesses to be at risk from overblown lawsuits from the SPA.

The SPA and its bully profile gained a lot of attention from the Net communities with its grandstanding, copyright-based attack on Web linking per se. How will the Netheads respond? Well, this group also includes those we call "hackers" — highly competent, often youthful network users who are usually ready to respond to a challenge. If the slow-moving, legalistic SPA gets in their faces too much, it may be looking forward to a long, rich future of pranks and attacks, testing to see if the SPA can take it as well as they dish it out.

The other major set of players weighing in on the SPA suits were the civil liberties

groups, especially the American Civil Liberties Union, Electronic Frontiers Foundation and their related groups. The ACLU was founded many years ago to protect our Constitutional civil liberties generally, while the EFF was founded about 5 years ago to protect freedom of speech, privacy and freedom to explore online. As these groups feel out their missions on the evolving Net, they seem to be arriving at a new common principle and goal: to promote freedom of information flow online against all obstacles. In this newly defined online civil liberties regime, property laws of all kinds are inherently suspect, as they always involve restricting access to data in some fashion, and must be tightly constrained. So when the SPA attacked Internet operators with the proposal that they monitor all their data flow just to make sure there are no infringements, the civil liberties groups leaped forward in their defense.

The appearance of civil liberties advocates cast the SPA into unfamiliar territory. They deprived the SPA of the moral high ground from which to lecture its victims about the evils of copyright infringement, and spoiled the grand morality play the SPA hoped to foist on the public through news of its lawsuits. Instead of running the SPA's

tale of how it was conquering new vistas of Internet piracy, the press was more fascinated with ACLU and EFF claims that the SPA was trying to make mere Web linking illegal.

The civil liberties groups are also guilty, however, of going overboard in favor of their chosen causes. For example, in answer to the SPA's insistence that Internet operators monitor their sites for unknown infringements, Electronic Frontiers Georgia proposes its own "IP Challenge Policy." This turns out to be a bureaucratic system where the Internet access provider can delay responding to claims of infringement, and can act as a judge in determining what is, or is not, infringing. Just as the SPA seeks to put too much power in the hands of the property owner, EFGA tries to put too much power in the hands of the Internet business. Going even further overboard, EFGA included this notably silly comment on the SPA case at its Web Site (www.efga.org): "Adobe's lawsuit speaks of 'Cracker Tools', which we hope is not a disparaging comment against 'Georgia Crackers.'" Well, they don't have to "hope" Adobe wasn't making bigoted comments about Southern "crackers." They know it wasn't so, and were just flinging a little extra mud.

It's a fact of life that civil liberties groups have to employ hyperbole, to try and even the odds in their battles with much better heeled corporate opponents. The important thing for the rest of us to remember is that their rallying cries often do not represent the real or ideal compromises we need to make in society, but one side in a battle against opponents pursuing similarly unbalanced agendas.

After the dust clears from the misbegotten SPA cases, is there a reasonable way to combat Internet software piracy? Yes, and it might even include linking in certain cases. After all, if a software pirate operates a Web site and nobody can find it, it won't do much business, but if a thousand other web sites link to that site, they can funnel vast amounts of online traffic to that site. But to avoid turning the Web into some kind of intellectual property police state, property owners should immediately abandon the SPA's general attack on Web linking, and always seek first to get hold of the actual software pirates. Only if the pirates somehow manage to keep operating in public, despite dedicated enforcement efforts, should anyone consider raising legal claims against those who merely provide links to the Web sites of others. ♦

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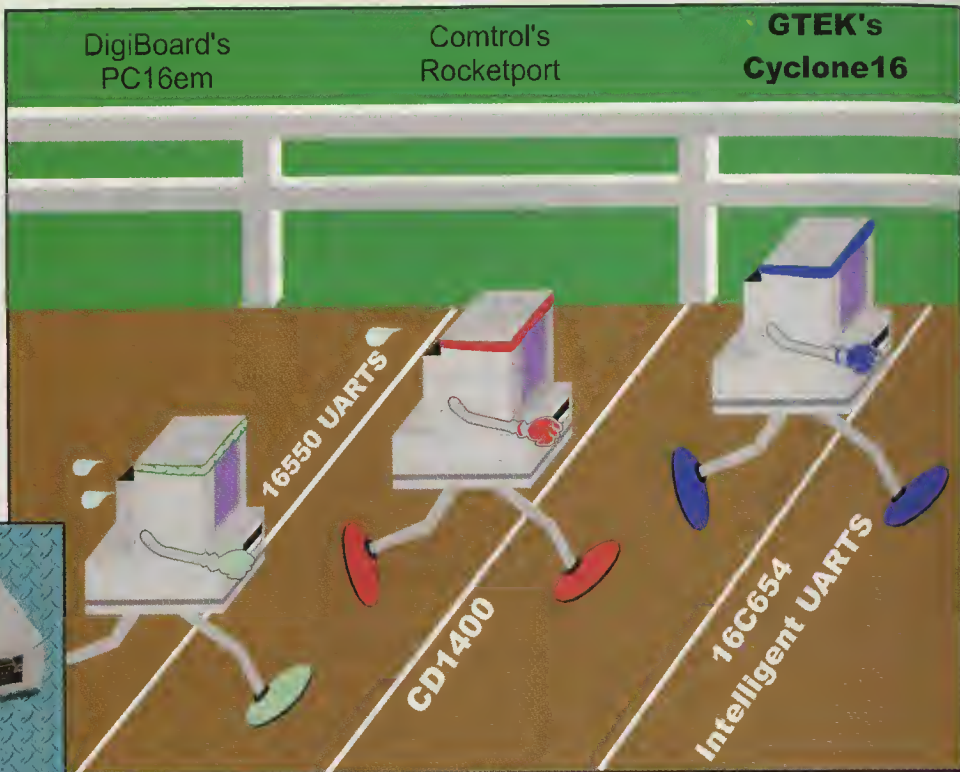
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CYBERWORLD MONITOR Frank X. Sowa

SPAM KINGS TARGET OF GOVERNMENT PROBES

The *Wall Street Journal* recently reported that the Internal Revenue Service (IRS) is looking into "the underreporting of taxable incomes by companies doing business on the Internet."

The article went on to state that a primary target would be multi-level marketers and those who place unsolicited e-mail ads on the Internet — in other words, "spammers."

The Federal Trade Commission (FTC) has stated that "it has begun numerous probes into claims of fraudulent advertising, illegal Ponzi schemes, chain letters, illegal gambling and other illegal trade activities on the Internet," after receiving piles of complaints from consumers who have been ripped off by "scurilous spammers." Already, the FBI and FTC have initiated the first of a series of nationwide crackdowns.

The Securities and Exchange Commission (SEC) recently completed a number of crackdowns on companies that use spam to create interest in upcoming IPO offerings — especially during the SEC "quiet period" that forbids discussions of certain company matters before a stock offering. It seems that broadcasting prospectuses through the Internet creates an uncontrollable situation that directly breaks this law. In addition, the SEC is working to crack down on financial securities scams, and "other false claims that are being made on the Internet regarding financial vehicles." Spammers are the most common targets.

The FBI is "monitoring" spam to track a number of what they term "illegal Internet activities normally associated with the operations of organized crime." The Department of Justice plans to sweep the Net in the near future using the statutes of the RICO laws to prosecute offenders who both place the illegal materials on the Internet — and "also those who run the networks where these illegal operators make their initial access to the Internet."

The Clinton Administration is also seeking tougher regulations in cyberspace regarding content and copyright infringements — which will have a direct impact on spammers, as well as ISPs.

In addition, 38 states are establishing initiatives to go after spammers and ISPs who "cheat the public — by promoting false consumer information, and fraudulent or illegal schemes in electronic networks."

GOVERNMENT ONLY INTERESTED IN ILLEGAL ACTIVITY

Inappropriate posts are not necessarily spam. To be considered spam, it has to be an excessive amount of

posting (which outside the Internet, would be plainly seen by the justice system as harassment — except by politicians at election time). To be an excessive posting, the arbitrary number that has been used for public forum areas on a site has been "around 20 posts to the same site." And, even once considered spam, it is not necessarily illegal spam, or spam that can be cancelable due to being an abusive form of harassment. Most spam is in fact protected under Free Speech Rights of the First Amendment.

There are some people who would love to turn in every spammer because they hate the e-mail and postings even more than they hate junk mail. But, there are very few laws against spamming. And while the government is targeting spammers, they are specifically looking for fraud, scams, shams and illegal activities that would place the perpetrators behind bars if they were doing the same things through the mail system.

If you do notice some illegal activities on the Net, you can report them to:

Federal Trade Commission (FTC)
Bureau of Consumer Protection
David Medine, 202-326-3224
<mailto:dmedine@ftc.gov>

But before doing so, really contemplate whether or not the activities are *illegal*. Federal and state bureaucracies establish their prevention budgets based on, among other factors, the number of complaints received. If you don't want more federal regulation of the Internet, think twice before turning a scumbag in — unless, of course, he/she is not just a scumbag, but is also a *criminal* scumbag.

CONSUMER PROTECTION GROUPS

If you need an alternative to the government solution, a non-profit organization which deals in such things (and more) is the **National Fraud Information Center**, which is funded by grants from major corporations and works in cooperation with federal, state, local and international law enforcement agencies. Their purpose is to act as a clearinghouse and organize, classify, and forward "fraudulent materials" to the appropriate body: state's attorney general, the FTC, FBI, Secret Service, wherever. You can reach them at <mailto:nfic@internetmci.com> or via their Web site at <http://www.fraud.org>.

For financial, stock and securities fraud, illegal prospectus scams, illegal brokerage activities on the internet and so forth, you should contact the

Frank X. Sowa is president of The Xavier Group, an international consultancy providing strategic planning, forecasting, training, and development of business and communications systems for organizations since 1981. As a certified software consultant for Softarc's First Class, and a reseller for other companies, he configures customized BBS systems for organizations, complete with "regular content updates." Sowa is also founder and sysop of SEED.NET (412) 487-5449, "the online incubator" for small businesses, a seamless BBS-to-Internet (PPP) provider, with business start-up assistance and seed capital available online.
<mailto:franksowa@aol.com>

Securities and Exchange Commission at
mailto:enforcement@sec.gov

ENFORCEMENT WILL NOT BE EASY

But, before you go running off to the government and expecting instant results, recognize that enforcement will be no easy task. The spamming market is huge, and there are a lot of legitimate sales promotions among the illegal ones. To prosecute a case against a spammer who makes certain his customers are not pushing illegal schemes would be the same as going after the direct mail houses who fill our mailboxes with junk mail. It would seem to be very unconstitutional.

And, if there are over 10,000 spamming companies out there, separating the illegal activities from the legal ones will be an expensive and daunting challenge. The fact that a lot of illegal spam is forwarded, or initiated from foreign sources, makes it even more difficult to trace. The result will be that each agency will probably work to make examples of certain spammers to, in effect, send a message to all the others to voluntarily police their own services. This could actually have a positive effect.

SELF-POLICING SPAM WILL INCREASE PROFITS

If Spam Kings would voluntarily make certain that the claims in their unsolicited offerings were not scams, illegal activities, or unsubstantiated hype, they would alleviate two concerns that have to be plaguing their industry. First, they would put the government's "Big Brother knows best for us" concerns about spam to rest, once and for all. Second, they would be seen by their customers as a reliable source of information — an alternative to the web malls, junk snail mail, and catalogs.

This kind of change in marketing took place in the late 60's in the direct mail industry. After using the new direct mail medium to hype all kinds of off-brands and junk that didn't work, the industry received even a worse reputation when scams and illegal offers began taking over. The industry responded by creating its own trade association, lobbying group, and ethical standards — and by the mid-seventies had actually assisted Congress in making better junk mail laws to protect consumers.

If spammers even came close to adopting the standards of the direct mail industry — they would go a long way to saving face and saving their industry from undue but perhaps necessary regulations. I think they would even see profitability increase — because fewer potential customers purchase anything that smells of a scam.

PROPRIETARY ONLINE SERVICES DUMP SPAM

AOL recently succeeded in getting approval from the courts to remove unsolicited spam from the service. Other proprietary commercial services are following suit. Spammers have appealed with countersuits, but at the time of this writing, it appears AOL will prevail.

A few months ago, Prodigy received a heavy blow from a New York lawsuit regarding messages posted on it. The court ruled that because Prodigy advertised that they were monitoring and removing content that didn't meet their standards, that they were liable for a posting in the mail area. Using this kind of logic, it seems to me that the proprietary services should have a right to control the content on their servers (if they also accept the responsibility of doing that as well). In the end, it may be that this feature (limited spam) may be what keeps them alive and appealing to new customers. After all, in this Internet age, they do need something to push to the new user to make them see the benefits of their services. Spammers will just have to live with the fact that they'll have to reach cybernauts through the thousands of other channels afforded them.

THE PUSH FOR MATURITY

Spamming is still an infant industry. As it pushes toward maturity, it is hoped that it will add some of the features that are now available in the direct mail world — namely the ISPs and spammers will take the approach of organized self-regulation. They will get Big Brother off of their backs by creating a jointly-financed clearinghouse where a user can send one request to have his/her name removed from the mailing lists of every participating spammer. Those who do not participate or comply, will not be granted access by any of the participating ISPs. ♦



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Java Flavor of the Month

Steve Graves is founder of Technical News Service Inc. and Editor of **SysNews.Com - The Journal of Online Products and Services** (<http://www.sysnews.com>). Each issue, Steve spotlights a unique, practical, cool or otherwise noteworthy JavaScript application, which must be freely available for use by other Webmasters. If you have written or know of such a script, write to Steve at <mailto:editor@sysnews.com>. All reviewed scripts can be retrieved at <http://www.sysnews.com/centers/java/java.htm> where Steve also maintains a conference area for questions and comments about JavaScript. You can also subscribe to his JavaScript mailing list at this page.

Calculating On The Client Side

This month's JavaScript was written by author, software developer and web designer Reaz Hoque. The material we cover here is expanded upon in Hoque's upcoming book tentatively titled *JavaScript For Pros* by MIS press. To see more of Rhoque's work, visit <http://rhoque.com>.

If you've ever purchased anything from an online mall, you may have been annoyed by the length of time it takes to complete a transaction. If the shopping mall is CGI driven, part of the delay is caused by the time it takes the server to calculate the transaction. On lightly used systems, the delay is minor, but on heavily used systems, online merchants may lose sales when impatient users drop the connection or the system times out. Transaction delays can be minimized by moving as much of the processing as possible from the server to the user's local machine. JavaScript form submissions work a lot faster when processed on the client side. JavaScript also gives transaction capabilities to web masters who use hosting services to publish their pages. Most Internet Presence Providers don't provide access to the CGI-bin for security reasons.

This month we present an on line computer cost estimator done completely in JavaScript. It can easily be adapted to other products by changing a few of the variable labels. The script minimizes server CPU utilization by off loading order calculation from the server to the client. Part of the processing delays encountered with CGI programs is due to the time it takes to calculate the cost of an order. More complex orders involving consumer choices such as color, size, style, and other options require more system resources. Our script can handle very complex orders.

The computer estimator script permits the customer to design his own computer system by selecting from a list of options and inputting his choices into a form. After the user submits his selection, the JavaScript calculates and displays the price — almost instantly. The shopper can easily change the selected options to meet budget or performance criteria without having to endure the delays typical of CGI solutions.

We begin by creating a table containing a form that serves as the front-end for our computer cost estimator; see the accompanying screen shot. The table is strictly for esthetic advantage and can be omitted if desired. We then create and center the form inside the table. Thus: `<TABLE>....</TABLE>`. As you guessed, we use the form post method: `<FORM method=post>`.

Client-Side Cost Estimator User Interface

Next we create our model and cost options:

```
<SELECT NAME="processor">
<OPTION Selected> Select
<OPTION> 68LC045 DD [$540]
<OPTION> 68LC045 EE [$340]
<OPTION> 68LC045 FF [$680]
<OPTION> 68LC045 GG [$421]
</SELECT>
```

We use the NAME attribute to specify the selection. This enables us to call choices with functions. We identify customer choices with the option tags. If you wish, you can easily modify the list to suit almost any type of merchandise or service.

Now we add a button to update the user's choices. The button displays the calculated price in a text box.

```
<INPUT TYPE="BUTTON" NAME="price" Value="Update Price"
onClick="compute(this.form)">
```

The event handler **onClick** executes the JavaScript code. The parameter **this.form** ensures that the data is exported to the function from the current form.

We use a second button to call up a browser window to preview the order. The window displays selections and prices and allows users to print their estimate.

```
<INPUT TYPE="BUTTON" NAME="Print_data" Value="Print
Preview" onClick="print(this.form)">
```

To refresh the display, the reader must first close the Print Preview, select the price update button, and re-select Print Preview. The text box that displays the updated price is created thus:

```
<INPUT TYPE="text" NAME="T_Price" Value="">
```

Notice that the variable **value** holds the text box blank until **T_Price** is pressed. Okay, take a deep breath and let's move on to the back-end.

THE BACK-END PROCESSING

The back-end does most of the work of tracking, calculating, and totaling the user's selections. We start by defining variables:

```
var called=false; //to make sure the function compute() is called
var T_Price=0; //the default for total price is always $ 0
var pr_flag; //processor flag for keeping track of the choices
var pr_print="";
```

```
var sp_flag; //flag for Speed
var sp_print;
```

Additional variables for monitor type, modem, processor and other system components are declared in the complete script.

Most of the variables track selection options. The variable **T_Price** adds the price of all the selected components. The Boolean variable is used to call the **compute()** function, which keeps track of all selected options and performs the final calculation.

FUNCTION TO COMPUTE TOTAL COST

```
function compute(form){
called=true;

//-----Processor-----
if (form.processor[0].selected){
    pr_flag=0;
    pr_print= "None [$0]";
}

else if (form.processor[1].selected){
    pr_flag =540;
    pr_print="68LCO45 DD [$540]";
}

else if (form.processor[2].selected){
    pr_flag =340;
    pr_print="68LCO45 EE [$340]";
}

// Any number of else/if statements might appear here, depending on the
number of components

//-----calculation of price

T_Price=pr_flag+sp_flag+ram_flag+hdrive_flag+vram_flag+fdrive_flag
+cd_flag+mn_flag+mos_flag+ kb_flag +modem_flag+card_flag;

//-----display of price-----
form.T_Price.value=" $ "+ T_Price;
}
```

I've omitted several else/if subroutines in our example to save space. The complete JavaScript includes similar code for each object used, i.e., vram, hard disks, floppy disks, monitor, mouse, modem, and sound card. The first line of this function is assigned the true Boolean variable in case the user selects the Print Preview button before updating the price.

As we noted in a previous column, the first element of an array is defined as the 0th element in JavaScript. So the array for the first selection option is thus:

```
Array[0]=Select
Array[1]= 68LOCO45 DD [$540]
Array[2]= 68LCO45 EE [$340]
Array[3]= 68LCO45 FF [$680]
Array[4]= 68LCO45 GG [$421]
```

Because we called our first option from the processor within the **if** statement, we got the form object by calling the array element of the object and its property. We used **else/if** statements in the processor to assign the appropriate price for each option to the **pr_flag** object.

After handling the selection options, we add all flags using the **T_Price** variable thus:

```
T_Price=pr_flag+sp_flag+ram_flag+hdrive_flag+vram_flag+fdrive_flag+cd_
flag+mn_flag+ mos_flag+ kb_flag+modem_flag+card_flag;
```

Finally, we display the value of **T_Price** in our text box by replacing the blank property of the text box with the **T_Price** value:

```
form.T_Price.value=" $ "+ T_Price;
```

The function **print()** creates the preview window that displays to the user his choices and the computed price. We call the **compute()** function and use variable text to dynamically create the new web page.

DISPLAYING COMPONENTS AND TOTAL PRICE

```
function print(form){
if(!called){
    compute(form);
}

text = ("<HEAD><TITLE>'UniVista On-line Computer Cost
Estimator'</TITLE></HEAD>");
text = (text + "<BODY BGCOLOR = '#FFFFFF' ><CENTER><B><FONT
SIZE = 4>
<FONT COLOR=BLUE>UniVista On-line Computer Cost Estimator<BR>
</FONT></FONT></B></CENTER>");

msgWindow=window.open("", "displayWindow", "toolbar=no,width=375,
height=480,directories=no,status=yes,scrollbars=yes,resize=no,menub
ar=yes");
msgWindow.document.write(text);
```

Next, we use the **window** object to create a new window and assign properties.

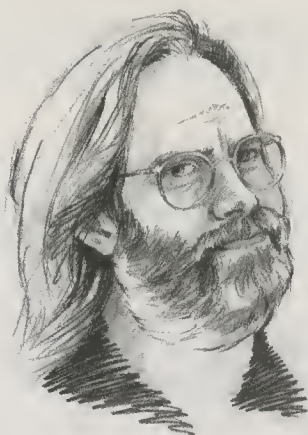
```
toolbar=no
width=375
height=480
directories=no
status=yes
scrollbars=yes
resize=no
menubar=yes
```

Finally, we use the **document** property **write** to display the text.

Book of the Month

JavaScript Essentials - Creating Interactive Web Applications by Jason J.

Manger is a complete and accurate introduction to JavaScript writing. Although the tome has a pedantic flavor, it is well organized. If studied carefully, this book can provide the foundation required to master JavaScript. The accompanying 3.5" disk contains useful snippets of source code that generate dynamic HTML, detect browser capabilities, validate form input, and more. You can preview a sample chapter at <http://www.sysnews.com/books/osborne/www.osborne.com/int/jses.htm>. You can buy it at your local bookstore, direct from Osborne McGraw-Hill at (800) 262-4729, or online at SysNews.Com. Refer to ISBN 0-07-882234-3. ♦



JAVA Jitters by Doug Shaker

UPGRADING TO WINDOWS NT

I want to learn Java. It's hip, it's happening, it's now — it's the language du jour. It has all the marks of a fad at the top and heaven knows I want to be as fashionable as the next nerd.

The bookstores have shelf after shelf after shelf of books with titles like *"Learning Java in 11 Days For Nincompoops!"* Don't you just love it when books insult their readers in their titles? All of the books have CD-ROMs in the back with some eclectic selection of Java tools. I am sure some marketing bozo is counting up all of the CD-ROMs that have been given away, along with all the Java kits that have been downloaded off the web. You know he's going to count each one of those as a "Java programmer" and then proudly declare, *"There are now 245,000,000 Java programmers in the US."* By those rules, I am four or five or maybe even ten of those programmers, and I haven't coded a line of Java yet.

But I *do* want to learn Java. I am earning my money doing technical writing these days, and I figure knowing Java will make me more marketable, more attractive, more alluring — a kind of technical writing equivalent of Clark Gable. And how hard can Java be, if nincompoops can learn it in eleven days?

FREE SOFTWARE, HARDWARE UPGRADE EXTRA

Well, I don't know how hard the Java part is going to be, but getting my computer ready to learn has been the usual upgrade experience — long periods of boredom alternating with short periods of terror, perplexity and despair. Getting Java going is an upgrade experience because Java doesn't run on MSDOS or Windows 3.1. The Intel processor implementations only run on Windows 95 or Windows NT. My personal machine — a slow (90mhz) Pentium otherwise known as *Coyote* — was a Windows for Workgroups 3.11 box. I needed to upgrade it to either NT or Win95.

I despise Windows 95. Microsoft started out with a laudable design goal — a consumer 32-bit operating system with an object-oriented interface. Then, during that long, long, long trek to release — how many years late were they? — the design goal was compromised so that compatibility with MSDOS and Windows 3.1 could be maximized. As a result, we still have those intensely annoying Windows 3.1 problems — GPFs and resource shortages. No Windows 95 for me — Coyote would have to become a Windows NT machine.

The literature for Windows NT says that you can run it on a 16mb machine, but all of the scuttlebutt says "Ahh, you'd better think about more memory than that — a lot more memory than that." I respect scuttlebutt a lot

more than marketing literature and memory is cheap right now, so I thought I decided to take Coyote to 32 megabytes. There were a couple of other things I needed to do to Coyote, too — install a sound board and add a disk — but I thought I should be conservative and do one thing at a time.

GETTING DOWN WITH THE DUST BUNNIES

I bought the SIMMs from the local computer superstore — a nerdy heaven with SIMMs, CPUs, large screen TVs, chocolate bars, soft drinks, aspirin, and soldering irons all in one store. I went home, cleared out all the crap under my desk, crawled under the desk with Coyote, opened Coyote up, and put in the SIMMs. I booted Coyote up and everything seemed to work fine. I closed up Coyote, crawled out from under the desk and planned my next step.

A backup would be the prudent thing — a complete backup followed by a new disk, the sound board, and, finally, the OS upgrade. I pulled out my tapes, queued up the backup, and — Boom! — nothing, extremely persistent nothing. The system would let me specify a backup sequence, but it would freeze every time it tried to write to tape. A hard reset was required to get going again. I tried three different backup programs and they all did the same thing.

Why do computers act this way? Isn't it just one of the most annoying bits of bull in the silicon universe? All I did was increase the memory on the box and the tape drive stopped working. I don't know what happened — maybe the driver for the tape had been written under the assumption that no PC in the known universe would ever have more than 16mb of memory. If software like that runs on a machine with more than 16mb, it can overrun its allocated memory and step on the operating system. How do I get a backup happening now?

Without much hope, I sent an e-mail to the makers of my SCSI adapter — Adaptec (<mailto:support@adaptec.com>, phone: (800)959-7274, <http://www.adaptec.com>). I sent them a description of the problem, the board version number, serial number, and the BIOS version number that was displayed at boot time. I didn't expect to get much help. To my surprise, I got a return e-mail within 36 hours and — zowie! — they would mail me a new BIOS chip free of charge. Two days later, the chip arrived. Yes! Way to go Adaptec!

At this point, I took a different approach to the upgrade. The gradual approach, one board at a time, was theoretically the way to go since I could advance from one known working configuration to another, leaving myself the option to retreat to a previous configuration if things didn't work out. But right then, with the first step blowing up in such a convincing way, that

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He has one wife, two children, three pets, and five computers. The computers are obviously out of hand. He can be reached via e-mail at mailto:doug@theshakers.org.

Yes, that is a personal Internet domain. We told you the computers were getting out of hand.

approach felt like doing an amputation with a baloney slicer. I decided to do everything at once.

I went down to the computer store again and got a 2 gigabyte disk from IBM for a little less than \$400, a new SCSI cable with more connectors on it, a sound board, and one of those Microsoft Natural keyboards. In keeping with the spirit of the place, I also got a new battery for my cordless phone, a digital voltmeter, a chocolate bar, and a science fiction novel.

I crawled back under the desk with Coyote, the dust bunnies and the cable snakes, and started wreaking havoc. I pulled the SCSI adapter — an Adaptec 2940 — hassled out the old BIOS and plugged in the new BIOS. Just as a precaution, I booted. It worked. Great! Damn the incompatibilities — full speed ahead! I popped in the sound board — a vanilla Sound Blaster Pro from Creative Labs, Inc. — and then went to work on the disk.

The disk itself was great. One jumper change and it had the right SCSI id. It was tough snaking that baby into the last 3.5" bay available in my chassis, but I did it. Three screws and it was in place.

CURSING THE CABLES

The real hassle was the cables. For one thing, there weren't enough power cables left inside the chassis and I didn't have any splitters left. I went back to the computer store and picked up three power cable splitters — one to use and two for future crises — and a Hershey's Special Dark chocolate bar to console me in the difficult moments ahead.

The other cable problem was the SCSI cable. It wasn't keyed. The connectors were missing the little bumps that keep you from attaching the cable to the disks backward. The red stripe on the ribbon cable is always the wire that attaches to the number one pin on the SCSI devices, so it is still possible to get everything right without the bumps — if you can see the backs of the SCSI devices to read where the number one pin is. This is easy when the devices are on your desk. This is tough when they are installed in a PC chassis under a desk and you are looking with a flashlight. Two or three trial boots later, I had very tired eyes, a cramp in my back, and a PC that booted.

By now, I was no longer the lone macho nerd, eager to upgrade everything at once, with no backups, with no safety net other than my own technical skills. I wanted an excuse to get out from under the desk, take a walk, and see blue sky. Time for the backup! It's

funny how easy it is to be wise when wisdom's demands coincide with your own desire for creature comforts.

In accordance with the instructions from Adaptec support, I downloaded a new version of their SCSI software from the web, installed it, and tried the backup program. It worked! I started a full backup. Man, it is weird to see all the crap that you accumulate on your disk: letters to the editor about issues five years old, a database of names and addresses for my daughter's brownie troop, e-mail files in a format I can no longer read. Will my past feel this trivial when I die and see my life pass before my eyes? I sure hope not. Six hours of trivia later, I had a formatted and verified backup tape.

NITPICKING WINDOWS NT

Finally, it was time for the NT install. I had a copy of Windows NT 4.0, Workstation edition. That's the edition that costs less, but comes with a ludicrous license agreement.

Let's talk about that stupid agreement for a second. The essence of the agreement is that they don't want you using your workstation license as a web server. They can't really stop you from using it as a web server, so they tell you that you can't have more than ten clients connect to your web server. Of course, they don't give you any way of enforcing that restriction nor any way of measuring whether or not you are in compliance with this restriction. It's empty legal BS that their marketing department and corporate counsel cooked up.

Although there is no technical reason to do so, they really want you to use the more expensive NT Server edition for web service. Since the NT Server edition contains a web server, they hope they can kill off all the little companies selling web server software for NT Workstation edition. But the IIS Web server stinks. If Microsoft really wants you to buy the NT Server for web service, they should add some technology — like a special purpose disk cache for web pages and high performance TCP/IP implementations — that makes the Server into the obvious technical choice. Legal BS in a shrink-wrap agreement is a poor substitute for real product differentiation.

Ranting about the legal agreement aside, the NT install went pretty easily. My version came with a CDROM and three floppies. The install program asked a lot of questions, but only the networking ones were hard. Maybe those wouldn't have been hard if I had taken the time to read the installation instructions. After about 45 minutes, Coyote was booting as an NT workstation.

KEYBOARD CAVE-IN

Bizarrely, the keyboard seemed to be stuck in Caps Lock mode. Changing keyboards didn't help. But by this time, it was midnight, I was tired, and a bootable system was enough. I went to bed.

The next morning, nothing worked. Booting gave me a keyboard error, "No keyboard, press F1 to continue." Pressing F1, of course, did nothing. Jiggling the keyboard connector did nothing. Changing keyboards did nothing. I got out my trusty and ancient (1991) book on PC hardware, *The Complete PC Upgrade & Maintenance Guide* by Mark Minasi (Sybex Inc., ISBN 0-7821-1259-5). It showed me the pinout for the keyboard connector and the voltages to expect on each pin. I got out my new digital voltmeter and found, alas, my motherboard was no longer supplying 5v power to the keyboard.

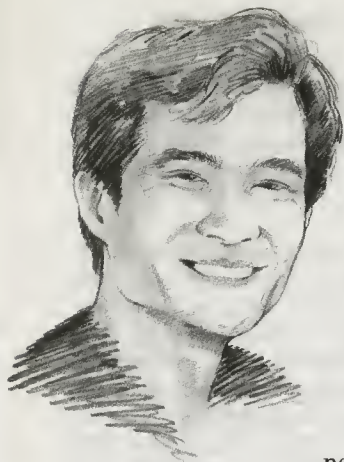
Problems like this are a real gotcha in the world of technology. I could wait five to ten days and get the board fixed at a cost of \$100 to \$200 or I could buy a new motherboard today for \$250. I feel like a wasteful jerk torching the motherboard because of the keyboard connector, but I didn't want to wait a week to read my e-mail, either. I went back to the computer store and bought a new motherboard. I tried to get a simple one, but, gosh, a lot of stuff gets located on the motherboard now. The version I settled on had the serial and parallel I/O, a sound board, and an IDE controller on the motherboard.

I spent the next five hours pulling out the motherboard, putting in the new one, and trying to figure out where and how to connect all those tiny leads from the chassis to the motherboard. I got it to boot the first time, but it took me two hours to get the leads right. Finally, after noticing that the reset switch leads weren't on right, I fixed them and the computer started working. NT came up just fine.

Then it only took me half an hour to understand why NT kept refusing my password. Finally, I realized that the keyboard had been in permanent Caps Lock mode when I typed in the password and that the keyboard was now working normally. I typed it in.

Just five days after I started the upgrade, I had a working Windows NT 4.0 computer.

Like I said, I want to learn some Java. Maybe I'll get to start next month. ♦



Wallace Wang is the author of *CompuServe For Dummies*, *Procomm Plus for Dummies* and *Visual Basic for Dummies* (all published by IDG Books) as well as *Surfing The Microsoft Network*, published by Prentice-Hall). He also does stand-up comedy in the San Diego area, and has appeared on A&E's "Evening at the Improv" TV comedy club. He can be reached via e-mail at: 70334.3672@compuserve.com or botheekat@aol.com or bo_the_cat@msn.com

Notes From The Underground by Wallace Wang

WINNING THE WAR ON SPAM

You've just been spammed. Instead of finding interesting and important messages from business associates, experts, or friends in your e-mail account or your favorite Usenet newsgroup, you may find a long list of junk e-mail from companies advertising totally irrelevant products, such as vitamins in the alt.comp. virus newsgroup. Unlike newspaper or magazine advertisements that you can ignore without losing moment's thought, spamming can be more troublesome.

Spamming can clog a normally useful newsgroup or e-mail account with utterly useless advertisements that nobody really wants to read. Even worse, the same e-mail could be crossposted to your other favorite newsgroups as well.

So what can you do? At the most extreme range of reaction, some people resort to mail bombing the spammer. Mail bombing works like spamming, but whereas spamming sends identical copies to different locations (such as newsgroups or individual e-mail accounts), mail bombing floods a single person's e-mail account with multiple copies of e-mail messages, effectively shutting down the targeted e-mail account.

[Editor's note: the JavaScript MailBomber at http://user.itl.net/~starwars/mb/javascript_mail_bomber.html is a convenient, forms-based way to send thousands of copies of an e-mail message to your favorite spammer. Just fill in the e-mail address, subject and message, enter the number of copies to send and click. But you must use Netscape 2.x, not 3.

Similar to mail bombing is phone call flooding or fax bombing. Phone call flooding involves programming your computer to repeatedly dial the spammer's toll-free number, thereby preventing real customers from getting through. Fax bombing involves sending multiple faxes (usually numbering in the hundreds) to jam a spammer's fax machine with useless messages, giving them a taste of their own spamming.

Unfortunately, mail bombing, phone call flooding, and fax bombing are disruptive practices that can be like fighting junk mail by sending out letter bombs. *[They are also major felonies in the U. S. - Ed.]* Rather than retaliate by mail/fax bombing or phone call flooding, try a gentler approach. Simply write back to the person or organization that posted the junk e-mail and ask them to refrain from flooding the Internet with their junk e-mail. Since most businesses want to max-

imize their efforts to reach new customers, they'll usually cooperate and that will be the end of any further trouble from the spammer.

Then visit the <http://www.kenjen.com/nospam> site and fill out a form to put your name on a special anti-spamming list. Supposedly spammers can use this list to weed out your name from their mailing lists, thereby preventing you from ever receiving junk e-mail again.

Of course, this assumes that the spammers will first consult this web site's anti-spamming list before sending out their junk e-mail. If they do, then you won't have to worry about spam ever again. But if they don't (which is more likely), then you may still have problems with the spammer.



COMPLAIN TO A HIGHER AUTHORITY

Unfortunately, either out of ignorance or out of deliberate malice, some people or organizations may continue their spamming efforts. If the spamming continues, send a polite message to the spammer's Internet service provider. Send your complaint to postmaster@spammer.site, admin@spammer.site, or abuse@spammer.site (where "spammer.site" is the site the spammer used to send the junk e-mail).

For some of the more popular Internet service providers, you can send a complaint to the following e-mail addresses:

America Online - abuse@aol.com
AT&T WorldNet Services - abuse@worldnet.att.net
Compuserve - 70006.001@compuserve.com
Earthlink - abuse@earthlink.net
GNN - GNNadviser@gnn.com
Netcom - abuse@netcom.com
Pipeline - abuse@pipeline.com
Sprynet - srb@spry.com

Internet service providers can't monitor all of their users, but if they receive a flood of complaints about one of their customers, they can take action against the spammer and stop future abuses.

You might also try visiting one of the following newsgroups to read more about a particular spammer, to find out if others have reported a spammer you need to watch out for, or to post your own message about a spammer for others to read and learn from:

news:alt.current-events.net-abuse
 news:alt.current-events.net-abuse.spam
 news:alt.spam
 news:alt.privacy
 news:news.admin.net-abuse.misc
 news:news.admin.net-abuse.announce

To get more information about handling spam, visit the **Netizens Against Gratuitous Spamming** web site at <http://axxis.com/~ian/nags>.

Netizens Against Gratuitous Spamming

DEALING WITH FORGED E-MAIL ADDRESSES

For Internet novices, spamming can be an innocent and unintended action. For others, spamming can be another way to deliberately annoy others. These more malicious or devious spammers are often smart enough to forge their actual e-mail address to prevent others from sending them complaints or mail bombs in return.

If a spammer opened a temporary e-mail account just to spam the Internet, there's not a whole lot you can do to stop them since they can keep opening up new e-mail accounts and shutting them down afterwards. However, if a spammer has forged their return e-mail address, there's still hope for you to exact your revenge.

The first step is tracking down the spammer's real e-mail address. For help in doing this, visit the **Get That Spammer!** web site at <http://kryten.eng.monash.edu.au/gspam.html>. Not only does this web site provide tips for dissecting an e-mail address, but it also provides several tools to trace an e-mail address.

In case the spammer's e-mail address is a numerical network address (such as 130.194.140.2), the "Get That Spammer!" web site provides a DIG tool that can convert this numerical address into a more recognizable name or convert a host name into a numerical network address.

Once you've traced the spammer's e-mail address, you can use the InterNIC's WHOIS tool at <http://rs.internic.net/cgi-bin/whois> to identify the administrative and technical

contacts for the hosts/domains you've discovered. Then write a polite, but firm e-mail to these people and let them know that you don't appreciate receiving spam in your e-mail account or Usenet newsgroup.

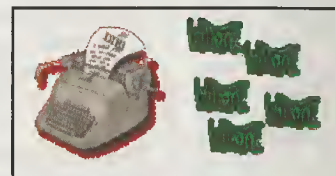
WRITE A NASTY REPLY

In case being polite is against your nature (or you just like getting revenge in a more emotionally satisfying manner), it's time to write a nasty letter instead. Rather than spend more of your valuable time composing such a hate letter, let a hate mail web site help write one for you.

These hate mail web sites provide pre-written hate mail that you can customize (to a limited extent) for your own needs. Such pre-written hate mail acts like a form letter where the basic structure of the letter remains the same but you can change different portions of the letter by choosing from one or more phrases, usually vindictive and often quite funny.

To send vicious hate mail, visit the <http://www.iac.co.jp/~negatron/hate> web site, which gives you a chance to send hate mail to someone you particularly despise (a spammer, a co-worker, an ex-spouse, etc.). Some of the milder forms of hate letters generated by this web site might start off with such greetings as "Dear Useless Bastard," continue with "I hope your favorite body parts fall off," and then conclude with "You're a bad excuse for a human being. I hope you drink bleach and die."

(If you'd rather send a more humorous, but equally abusive letter to someone who's getting on your nerves, visit **PythOnline** at <http://www.pythonline.com/spamclub/content/sendabuse>.



Since spammers are likely to continue haunting the Internet, you might as well have fun with them at their expense. For more fun, use an anonymous remailer (see the "Notes From the Underground" column from the July 1996 issue of Boardwatch) so you can send hate mail anonymously as well. While sending anonymous hate e-mail might not stop a spammer, at least it can make you feel better. And as long as you're happy, who cares how the spammers might feel? ♦

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Rea Andrew Redd lives and works in southwestern Pennsylvania where he manages a high school library, teaches European history and Scholastic Achievement Test preparation. On occasion, he reenacts American Civil War battles with the Ninth Pennsylvania Reserves, an historic, military impression unit. E-mail Rea at: mailto:reddegenesis.duq.edu

EDUCATION LINK

by Rea Andrew Redd

D.I.Y. REVOLUTION

Heaving spools of cable, running wires through ceilings, installing modems, a guesstimated 100,000 volunteers in 1996 have donated over 1 million hours of grunt work to wiring U. S. schools for the Internet. Individuals over 60 employers such as Sun Microsystems, TCI, Inc., Public Broadcasting Stations, knocked elbows with school administrators, faculty, and custodians, parents and students, even local and state elected officials to wire about 5,000 school buildings. In March and October, 3,500 California schools got wired and a few less than 300 of these got up and running connections.

NetDay, it's now called across America. John Gage, director of the Science Office for Sun Microsystems, and other colleagues, have corralled about 30 states and the District of Columbia to wire about 20% of the classrooms in their area to the Internet. New York, Connecticut, Maine, Mississippi and North Carolina appeared to have made the commitment.

TCI, Inc. has committed to establishing educational technology centers for faculty education. To find out how your state is organizing its volunteers call (800)556-3896 or visit the Web site <http://www.netday96.com>. If you need free cable modems, your community might be one of the lucky ones; call Cable in the Classroom at (703)845-1400 or visit its Web site at <http://www.ciconline.com>

TEXTBOOKS: CAN'T LIVE WITH 'EM, CAN'T LIVE WITHOUT 'EM

And this is particularly true in history classrooms. "T is widely quoted that "History is Biography;" in other words, "History is a damned good story." But, for the most part, somehow those good stories don't get into text books. It is up to the history teacher to tell those good stories; and just like good literature the story is in the details, the "telling anecdote." Now, just where on the Net are those good stories and how do I get the students to them?

Bill Tally (<mailto:BTally@edc.org>) has a few ideas about that dilemma. There are virtual pieces of the past on the Web; online archives of photographs, films, and audio recordings require their own methods of interpretation. Texts have one set of rules which students use to look closely and learn about the past; other media have another set of rules. Tally helps teachers develop new methods for these multimedia resources. Online archives are sometimes overwhelmingly extensive or sometimes fragmentary.

The New Media Classroom, sponsored by the American Social History Project and George Mason University, presents an institute for high school teachers which helps clarify the methods and strategies for working with primary, firsthand, historical sources on the Net. Tally's favorite Web sites for history include several of my own:

New Media Classroom —

<http://web.gmu.edu/chnm/nmc>

American Memory —

<http://rs6.loc.gov/amhome.html>

Valley of the Shadow —

<http://jefferson.village.Virginia.EDU/vshadow2>

Letters from an Iowa Soldier in the American Civil War —

<http://www.ucsc.edu/civil-war-letters>

Gilder/Lehman Slave Narratives —

<http://vi.uh.edu/pages/mintz/primary.html>

Student Research on American Wars —

<http://www.ilt.columbia.edu/k12/history>

ELEMENTARY INTERNET

Elementary school teachers now have a first rate teaching tool for Internet lesson plans. Introducing the K-6 student to the Web can be tricky and, if not well planned, can be labor intensive for the teacher and of short duration for the student. Classroom Connect, the Net educators from Lancaster, PA, are releasing K-6 WebGuide, which includes complete descriptions of education Web sites and Internet curriculum plans. This is not a big, fat manual but a concise and meaty 38 page booklet which features nearly 70 sites divided by ten curriculum areas. Presented in an easy-to-read style, the K-6 WebGuide includes Web page screen captures, a resource section of gopher, telnet, ftp, mailing lists and newsgroups, also arranged by subject areas. In the "Teaching with Technology" section there are Web sites for educators who need to gather the basics in classroom technology. Downloading lesson plans, online projects, international keypals, professional development courses, networking online with other Internet educators, each are covered in this section. The K-6 WebGuide is well worth the \$14.95; contact Classroom Connect at mailto:connect@classroom.net, <http://www.classroom.net>, 1866 Colonial village Lane, P. O. Box 10488, Lancaster, PA 17605-0488 or (800)638-1638.

INGENIUS

Ingenius, once known at Xpress, presents Ask A.N.D.I.E., a multimedia research tool which provides current events, politics, sports, business, weather, social trends and stock reports. Call (800)772-6397 or

visit its Web site at <http://www.ingenius.com> to learn about this subscription service.

TECHNOLOGY FOR EDUCATION 1997

Syllabus Press has scheduled their fourth annual conference; these hands-on workshops are among the most attractive of the many meetings for educators who wish to employ technology. Course development using the Web, distance learning, course management for curriculum already on the Web are covered. The meeting concentrates on the new digital tools for teaching and learning. Sonoma State University, California hosts the July 26-30 meeting. Visit <http://www.syllabus.com> to learn about the annual conference or their upcoming regional workshops.

THE K-12 BROWSER

For Teacher and Administrators

[Http://www.teachers.net](http://www.teachers.net) is a good site for novice and more experienced educators. Wondering how to integrate the Net into K-12 curriculum? Trying to find someone with a similar problem? Want to create your own WWW page? These questions and more are answered on the bulletin board, handbook, or in the Web tool lab. If you need to post your WWW page, it will cost you \$10 but everything else here, including the lab where you can experiment in Web page creation, is free.

If you are a school administrator send <mailto:mailserv@ec.tsed.edu.au> and type **subscribe school-admin-*<your name>*** in the body of the message to join a mailing list of topics such as staff training and development, classroom management, spreadsheets and databases in the school office, and of course, dealing with parents and the PTA.

K-12 HYPERCARD

Using Hypercard to help teachers identify their problems and goals, <http://edweb.sdsu.edu/edufirst/ProjectMaker.html> is a site that will help you get started and stay on track of that Net project. Creation of Web pages, resource links, teaching tips can be downloaded from this site. Browse the link to School WebMaker, a site which helps teachers create a school's home page.

KID RESOURCES

[Http://www.kidsource.com/kidsource/pages/education.homework.html](http://www.kidsource.com/kidsource/pages/education.homework.html) is a current list of homework helper sites on the Net; this site is constantly adding and improving resources, including a WWW digital library for K-12 kids. [Http://whyfiles.news.wisc.edu](http://whyfiles.news.wisc.edu) is the site of The Why Files, a project of the National Institute for Science Education. Updated twice a month, the science of everyday life, such as math, chemistry and engineering are presented. Traveling from the prehistoric past to present day outer space, there is very little pertinent material upon which this site does not touch. [Http://www.msn.com/encarta/sch](http://www.msn.com/encarta/sch) is the site of Microsoft's Encarta School and is designed for 7-12 students and their instructors; the site is updated monthly and is loaded with reference helps, Net links and activities. There are reference librarians and experts to deal with the questions which don't have easily found answers. No matter what you think of Bill Gates, Microsoft has done an admirable job of doing the research, filtering the Net and accessing lots of the top notch materials available.

THE COLLEGIATE BROWSER

Thinkpad University, Digital Dorms and Interactive Librarians North Dakota's Valley City State University is equipping freshmen on orientation day with IBM Thinkpads; IBM has initiated relationships with several schools in the hopes of insuring that many students who do not usually have easy access to educational technology get basic introductions and opportunities. More information on the program is available at <http://www.vcsu.nodak.edu/vcsu/home.html>

The University of Notre Dame has wired several of its dorms for Ultra Desktops with servers; the University of Michigan with support from General Motors are using them as mini-CAD classrooms. The University of California at Irvine is deploying a K-12 math assessment project in a comparative study with universities in Shanghai. Sun Microsystems, Inc. is looking for more higher education facilities to hook up with private sector partners in similar endeavors; get the basic stats from <http://www.sun.com>

A video conferencing system in residence halls of the University of Michigan, Ann Arbor allows students to interact with a librarian on duty in another building. It's the Interactive Reference Assistance Program (IRAP). Librarians who wish to further explore this new aspect of librarianship may visit <http://sunsite.berkeley.edu/~emorgan/see-a-librarian/> and get the low down on the CU-See-Me video-conferencing software developed at Cornell University.

SHOW UP AND PASS THE COURSE

When showing up means logging on and you are seven time zones away, a student has to be dedicated, especially to a topic like biology, genetics and computing. Pairs of students were scheduled to give class presentations and homework was assigned and sent by e-mail. The program which allowed this seminar to occur is BIOMOO, an online meeting place just like other Multi-user, Object Oriented domains, which allows people to type and receive messages at the same time. The professor, Paul C. St. Amand, a Department of Agriculture research and faculty member of Kansas State University, offered the tuition free course at the behest of Georg Fullen, a doctoral student at Bielefeld University in Germany, who ran the 1995 BIOMOO seminar. To get in on the next 1997 BIOMOO, <telnet://bioinformatics.weizmann.ac.il:8888> or visit the Website <http://bioinfo.weizmann.ac.il:8888>

FULL TEXT SOURCES ONLINE

BiblioData, publisher of books and newsletters for online searchers, is adding Internet URLs to the 1997 edition of the directory Fulltext Sources Online (FSO). With this directory, users will know if a title is found on the Internet, as well as through a commercial vendor. The FSO lists titles of journals, newspapers, newsletters, magazines and TV transcripts that are available in fulltext via online vendors such as DIALOG, Data-Star, LEXIS-NEXIS, Dow Jones, and others. There are about 6500 titles covered in FSO, listed alphabetically with the dates of coverage and a subject index, as well as other special indexes. So if you have a title at hand, you should check in FSO to see if it is on the Net before you use a commercial vendor. The 1997 edition will be released in January and is a full update of all material in the July 1996 edition. The North American price is \$110 with a 10% discount for standing orders. BiblioData: (617)444-1154; <http://www.bibliodata.com> or <mailto:Ina@bibliodata.com>.

DEEP POCKETS MEMO

Howard Hughes Legacy

The Howard Hughes Medical Institute announced that **\$45.5 million** will go to 52 college and university biological sciences departments; the awards will be

used to provide students with research opportunities, locate faculty in emerging biology fields, modernize aging equipment which is used in curriculum. More information on these four year grants is found at <http://www.hhmi.org>

Proactive and Reactive Grants

Dennis M. Norris (<mailto:dnorris@greatlinks.cic.net>) directs development and public relations for the Metropolitan School District in Perry Township, Indianapolis, and is the executive director of the township's Education Foundation; he sees grant writing as either reactive or proactive. Reactive grants are those which have been established by the federal, state, or local governments, private or public foundations, corporations or local civic organizations; an educational problem is identified and grants are awarded to experiment in solving the problem. Proactive grants are those for which you take the initiative project. Vague guidelines and mission statements characterize these funds.

Norris suggests the following as places to find reactive grants:

U. S. department of Education —
gopher://gopher.ed.gov/II/announce/competitions

Grant Writer's Guide to the Internet —
gopher://gopher.uidaho.edu:70/IIs/e-pubs/grant

Yahoo Education Grants Link —
<http://www.yahoo.com/Education/Grants>

Infoseek Grants —
<http://www2.infoseek.com/Titles?qt=grants>

Public School Bulletin, Quinlan Publishing Co. —
mailto:quinlanp@quinlan.com

For Proactive Grant Opportunities

The Chronicle of Philanthropy: (800) 347-6969 or <mailto:subscriptions@philanthropy.com>

The Foundation Reporter, The Foundation Directory, and The Directory of Corporate and Foundation Givers, publications of The Taft Corporation: (800)877-8338 ♦

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The PowerRack also has the standard feature list: TCP/IP, dial-in/dial-out access, a powerful RISC CPU, BNC/AUI ethernet connectors, ISDN capability, PPP, SLIP, CSLIP, SNMP, *bootp*, *rlogin*, *telnet*, reverse *telnet*, PAP/CHAP authentication, RADIUS, RIP and subnet routing.

PowerRack user and Internet Service Provider Rick Smith, of Town Square Access (rick@tsa.net), commented, "I love my PowerRack. It costs about \$2,000 for 16 ports. Ethernet connected, RADIUS supporting, full PPP, etc.etc.etc. And yes each port handles over 900K per port! It's only \$500 for each 16-port card to add to the first 16. The box can support 64 (4 cards) ports. By the time all is said and done, the final price is **\$3,839 for 64 ports**. Comparable Livingston Portmaster will cost you approximately \$6,000 for only 60 ports."



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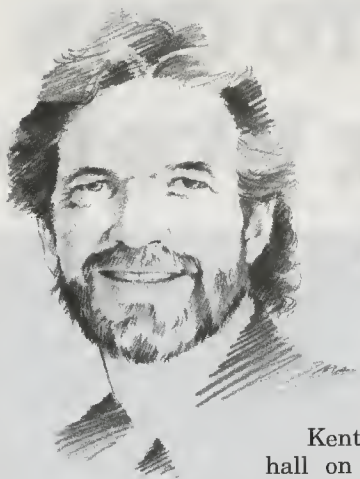
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MANNING THE WIRES

by Ric Manning

HOW A RURAL ELECTRIC UTILITY BECAME AN INTERNET PIONEER

Glasgow looks like most of the small country towns in south-central Kentucky. It's got a rusting rail yard, a pool hall on the town square and a statue of a Confederate soldier on the courthouse lawn.

Nobody would mistake Glasgow for Berkeley, Boulder or Blacksburg. But *USA Weekend* called the city of 14,000 one of the best-wired communities in the country.

Every week or so some new group of communication engineers, city managers or utility executives who want to get into the information highway business make a pilgrimage to tiny Glasgow to see what Billy Ray is doing down at the Glasgow Electric Plant Board.



Billy Ray, Electric Utility Superintendent and ISP

The Plant Board was started back in the Great Depression to bring electricity from the big Tennessee Valley Authority generators. "The big investor-owned utilities thought towns like Glasgow were too much trouble to deal with," said Ray, superintendent of the city-owned utility company.

The Plant Board still buys power from TVA. But today it does much more than deliver juice to the TVs and toasters in the city's 6,000 homes, schools and businesses. Since 1989, the utility has been in the cable TV business, competing directly with the local Scripps-Howard cable system.

Last year, it quietly began selling Internet access for cable subscribers who want it. For \$24.95 a month, they get 52 cable channels and an Ethernet connection to their computer that can pull down Web pages as fast as a T-1 line.

Billy Ray will even sell you a local dial tone, if you don't mind service that can sometime be a little flaky. "It's cute and it works okay," said Ray. "It's just not as reliable as plain old telephone service. If GTE is 99 reliable, we're about 92 or 93 percent."

The fact that Glasgow has open competition for cable and phone service made it sort of the poster town for deregulation during the debate over the telecommunications reform act. The *Wall Street Journal*, for instance, called the plant board's project "the most ambitious attempt by a U.S. utility to marry electricity and electronics."

But it's the Plant Board's Internet service (<http://www.glasgow-ky.com>) that may prove to have the most impact on Glasgow and on the telecommunications business in general. "This Internet access is not going to be a 10 or 15 or 20 percent market share," said Ray. "This is something that everybody is going to want."

Many of the nation's 2,200 municipality-owned utilities are looking at Glasgow's experience and some communities have begun to follow the city's trail:

Laredo, Texas — Last spring a subsidiary of Dallas-based Central and South West Corp. wired about 850 homes in a pilot program. The project helped the utility holding company land a contract with the City of Austin to build a \$300 million fiber-optic and coaxial cable network. The Austin network, to be built over the next five years, will be used to manage energy traffic and provide cable and Internet services.

Harlan, Iowa — Dissatisfied with the service they were getting from the local TCI cable company, residents endorsed a plan to launch a new cable service through the city-owned electric utility. The \$2.5 million project will install fiber-optic links in the local schools and hospital and follow cable service with Internet access.

Lusk, Wyoming — Thanks to the municipal electric utility, this town of 1,500 people in the least populated county in the least populous state is fully wired. All 600 homes, two schools, a library, government offices and businesses are linked to the Internet through a fiber and coaxial network.

"We're seeing a number of utilities take advantage of their rights-of-way and their deep pockets to get into the telecommunications business," said Robert Frieden, a communications professor at Penn State University. He said most utilities hope to expand their markets and their revenue base by offering a variety of services, from cable TV and the Internet to meter-reading to burglar alarms.

Most of the utility-based communication networks got their start the same way Glasgow's did. Back in the mid 1980s, Glasgow's utility managers were simply looking for a way to reduce costs.

Ric Manning writes about business technology, computers and consumer electronics for *The Courier-Journal* in Louisville, Ky. His weekly column called *Home Tech* is distributed to more than 80 newspapers by the Gannett News Service and it's available on the World Wide Web <http://iglou.com/gizweb>

Ric was the founding editor of *Plumb* and *Bulletin Board Systems*, two newsletters that covered the BBS arena in the early 1980s. His freelance work has appeared in several magazines including *PC Computing*, *Mobile Office*, *PC Week* and *Home Office Computing*. Ric lives in Southern Indiana with his wife, two children and a champion Weimaraner. Write to Ric at <mailto:ricman@iglou.com>

"It would be nice to say we saw all of this coming," said Ray. "But we didn't."

Ray proposed building 120 miles of coaxial network primarily to automate the monitoring of the power company's substations. Eventually, the system might be extended into homes to read meters and manage electricity use. Ray said the board decided to build a network with extra capacity and a local attorney suggested using it for cable TV.

The Internet idea pretty much dropped in Ray's lap. One of the many people who called Ray to talk about the city's broadband network was Dr. Vinton Cerf, a vice president at MCI and one of the creators of the Internet.

"He said we're really intrigued by what you're doing. How'd you like to have a connection to the Internet?" said Ray. MCI ran a T-1 line to the Plant Board's office, which the phone company continues to subsidize. "I think they like to go up to Capitol Hill and the FCC and say look at all the wonderful things we're doing in rural areas," said Ray.

It turns out that the T-1 line is the slowest part of Glasgow's Internet system. Users can surf Web sites within the Glasgow network at 4 megabits per second, but anything out of town arrives no faster than 1.5 Mbps.

So far, the Plant Board has wired about 300 sites, many of them LANs that serve multiple computers and workstations. The utility provides a Zenith cable modem to take the data feed from the coax cable while subscribers supply their own Ethernet cards.

Like a typical cable service, the Plant Board dispatches a technician to install the hardware and show subscribers how to use the service. Everybody in the Plant Board headquarters has become a customer service representative. "If people have trouble using WordPerfect, they call my secretary," said Ray.

The Plant Board also provides consulting and design services for LAN installations and Ray said some new homes are being constructed with built-in Ethernet wiring.

So, is this Is Glasgow Internet Nirvana? Not exactly, says Jose Zapata, a partner at a local computer store. He subscribes to the only other Internet service available in Glasgow, a dial-up service sponsored by a nearby phone company.

"In my business, I have to have Usenet newsgroups and you can't get them on the Plant Board's system," said Zapata.

Zapata also wants to offer Web page design services and the Plant Board doesn't support Web servers on its network. If you want your own home page, the utility sends you to the local school system. Ray said the utility doesn't want to have to monitor or censor what people might post on the Web or in a newsgroup.

So far those restrictions haven't curtailed local enthusiasm for the Plant Board's service: there's a six-week waiting list to get hooked up. And Ray said most folks in Glasgow are happy just surfing the Web and sending e-mail.

"Most of our users had never heard of the Internet," said Ray. "A lot of them think we invented it." ♦

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THERE'S

Spam,

AND THEN THERE'S

SPAM™

by David Hakala

Much of this month's issue is devoted to spam, the cyberspatial equivalent of Publisher's Clearinghouse mailings, boiler room telemarketing scams and America Online's conspicuous consumption of diskettes. But analogs do not make a definition; what exactly *is* spam, and what's so infuriating, disgusting and reprehensible about it?

Right away we run into a problem. There's online spam and then there's SPAM™, the luncheon meat. We're mainly concerned with digital spam, but some fascinating facts about SPAM™ are sprinkled (spammed?) throughout this article.

How did SPAM™ become associated with spam? The prevailing theory cites Monty Python's "SPAM™ Vikings" sketch, a complete transcript of which can be found at <http://www.cusd.claremont.edu/~mrosenbl/spamfiction.html#mp>. Basically, "Mrs. Bun" is trying to order breakfast in a restaurant – "...anything without SPAM™ in it." A crew of Vikings begins singing "spam, Spam, SPAM..." in the background, rising in volume until other conversation becomes impossible. If you've ever seen a newsgroup, you get the connection.

Some people denounce as "spam" any message they are not prepared to read at any given moment. By that criterion, almost every piece of e-mail and paper I receive at **Boardwatch** is spam – with the possible exception of my pay check. Others reserve the "spam" pejorative for messages which ask for money or an action that might conceivably lead to spending money; these folks are either very rich or very poor. Still others object to "spam" which offers to *make* money for them; you can't please all the people all of the time.

One person's spam is another's *filet mignon*. I tried some of the SPAM™ featured on our cover, and found it – unsettling, if you know what I mean. Roger Mertes, our Senior Advertising Sales guy, likes the stuff; he nearly undermined our lovely SPAM™ sculpture during the weeks we were assembling it for the cover photo. Likewise, some people really want to make money at home with their computers, while others would rather not be reminded by some newsgroup post that they've spent \$5,000 to surf the Cool Site of the Day. But in order to measure the severity of "the spam problem" and achieve some consensus on what to do about it, we've had to formulate a value-neutral definition.

According to Net lore expert **J. D. Falk** (<mailto:jdfalk@cybernothing.org>) – who keeps *The Net Abuse FAQ* up to date at <http://www.cybernothing.org/faqs/net-abuse-faq.html> – spam is "the same article (or essentially the same article) posted an unacceptably high number of times to one or more newsgroups."

First of all, note that the definition of spam is content-neutral; it doesn't matter what your message says or why you post it. Even if you're only trying to help poor 9 year-old cancer victim **Craig Shergold** (see sidebar at the end of this article), if you post your heart-rending appeal *too gawddamned many times*, it's spam.

How many times is "unacceptably high?" The generally accepted number is 20 – but no newsgroup moderator wants to make it official, because then spammers would post "only" 19 copies of the same article.

Next question: "posted" how often? Does the same message posted to one newsgroup once a month become spam after 20 months? Five days seems to be the accepted period during which to count instances of a given message, but again no one sets any firm rules or they might have to abide by them.

WHAT IS SPAM™?

Introduced in 1937 by Hormel Foods Corp. (which, surprisingly, does not yet have a Web site), SPAM™ is made from "100 percent pure pork and ham. No fillers, cereals or meat byproducts are used. The only other ingredients are salt, sugar and sodium nitrite which serves as a preservative," according to the product's fascinating media kit.

Then there's **cross-posting** versus **multi-posting**. Multi-posting is the posting of separate copies of a message to each of several newsgroups. Multi-posting is a mark of an amateur spammer. It's an inefficient way to post a message to several groups, involving several iterations of the message creation process. It also creates multiple copies of the message – one for every newsgroup spammed – on every news server that receives those groups. Of course, those superfluous copies are individually transmitted over the Net, wasting some bandwidth and server space; but the number of bytes involved is fairly trivial. Cross-posting, by contrast, transmits just *one* copy of a message to each news server, but the message is available to users in each of the newsgroups named in the message's "Newsgroups" header field. A kinder, gentler way to spam, for the spammer, the news servers and the Internet. But it's still spam.

TYPES OF SPAM™

SPAM™ comes in 7 and 12 ounce cans. A 12-ounce smoke-flavored SPAM™ was introduced in 1971. The low-salt/sodium variety appeared in 1986. Lite SPAM™, containing 25 percent less fat and sodium, was introduced in 1992 and, in 1995, improved to contain 50 percent less fat. There's the traditional "medium-coarse ground" SPAM™ and the more spreadable, creamier deviled SPAM™.

So to measure the noisesomeness of a spam, we have to consider how many times a message is posted over an arbitrary period of time; how many newsgroups it's posted to; and whether it's cross- or multi-posted. Whenever two or morvariables are found, someone tries to simplify things with an equation that yields one factor that everyone can watch. Alan Cox, one of the key developers of the Linux operating system, has a simple intuitive formula: "I currently use any post that matches closely with a post in `alt.recovery.penguin-fetish`, on the grounds that's got to be spam." But many people want mathematical rigor.

The Breidbart Index, invented by Seth Breidbart (<mailto:sethb@panix.com>) is a widely used if rather arbitrary formula for gauging the obnoxiousity (sic) of a given piece of spam. BI is the product of the number of times an identical (or "nearly identical") message is posted (M) times the square root of the number of newsgroups to which the message is posted (N). In mathematical notation, $BI = M * \sqrt{N}$.

Thus, we find that four posts to nine newsgroups ($BI = 4 * 3 = 12$) is not nearly as offensive as nine posts to four newsgroups ($BI = 9 * 2 = 18$). The BI neglects the different impacts on Net traffic and server storage space that cross-posting and multi-posting have. But it is widely used to determine when to take action against a spammer. A BI of 20 or more is likely to trigger retaliatory action from news server administrators or newsgroup vigilantes.

SPAM MUSHROOMS IN 1996

Spam messages skyrocketed from a low of about 50,000 per month in November, 1995, to nearly 275,000 per month as of October, 1996. See Figure 1. No doubt the explosion of spam paralleled the general rush to the Internet during the same period; in fact, we could hypothesize that this graph fairly accurately portrays the true rate at which people joined the Internet during 1996. Spammers tend to be clueless newbies, with a few sophisticated exceptions who have, for the most part, learned to use more refined, targeted techniques.

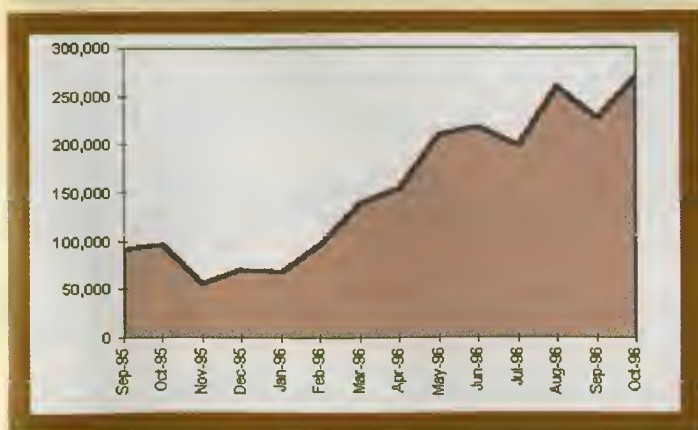


Figure 1: Usenet Spam Messages Per Month, recorded by Automoose-1 (<http://www.cm.org>)

THE SPAM KILLERS

News server administrators can, of course, manually kill (delete) any message(s) they don't want on their servers. They can also create killfiles, standing lists of e-mail addresses or entire domains whose messages will be deleted upon receipt. But the server still wastes bandwidth accepting spam, and it takes some effort or processor power to kill the stuff once it's on one's server. Some sysadmins block IP connectivity from specified "spam sites," so spammers can't even connect to their news servers. **Scott Hazen Mueller** maintains an informative site on spam-blocking for sysadmins and end-users at <http://www.vix.com/spam>.

Killing a message so that none of your system's users can read it is a moral decision on a par with an animal-rights activist's choice to kill a fly; troubling but not unthinkable if the little bugger gets really irritating. Internet ethics are firmly based on the freedom to circulate information, and anyone who decides what information may be circulated to what part(s) of the Net assumes a heavy responsibility. Killing individual messages is not a major karmic burden for most sysadmins, especially when hundreds of users are begging/demanding that the foul spam be removed. Wholesale slaughter of messages from specific individuals or entire domains is a momentous step, usually taken only after all appeals to the perpetrators have failed. Blocking IP connectivity is akin to excommunication – only more effective.

Canceling a Usenet message is to killing it as genocide is to murder. RFC 1036, "Standard for Interchange of USENET Messages," describes the "cancel" control message that, when sent to a newsgroup, can cause every news server that receives that newsgroup to delete a specified message. Now THAT's god-like power! And, of course, it most thoroughly corrupts the "godly."

CHURCH OF SCIENTOLOGY CENSORS USENET

The implications of cancel messages for free speech are obvious. Canceling anyone's messages other than your own is a more heinous crime on Usenet than spam itself. Most news servers are configured to ignore "cancel" messages from all but the most privileged users. But it is not that difficult to forge an address on a post, if you know the username of a privileged one.

Around Christmas, 1994, the "Cancelbunny" began forging cancel messages from privileged accounts on Netcom. The targets of this mysterious vigilante's cancel messages were certain posts containing information "stolen" from documents the **Church of Scientology** did not want published. Often the cancel messages contained an explanation such as, "This posting has been cancelled (sic) because it contains copyrighted materials." The "bunny" part of the nickname refers to the Cancelbunny's habit of "hopping" from one user account to another in an effort to avoid capture. Netcom canceled dozens of such accounts and eventually rooted out the Cancelbunny. But it just kept going, and going, and going... like the pink bunny in the battery commercial.

Cancelbunny – now a generic name for "account-hopping forgers of cancel messages" rather than a specific user – next appeared on deltanet.com. Again, it went after messages that the Church of Scientology wanted suppressed. A report of how the system administrators tracked down the two users who

forged cancel messages can be found at <http://www.cybercom.net/~rnewman/scientology/usenet/deltanet>. It's a good primer for "Rabbit Hunting," an increasingly popular sport on Usenet. Ron Newman is a leading Rabbit Hunter, diligently pursuing the Cancelbunnies who try to censor the Net. He also maintains the **Church of Scientology Vs. The Net** web site at <http://www.cybercom.net/~rnewman/scientology/home.html>.



"Rabbit Hunter" Ron Newman Roots Out "Cancelbunny" Usenet Censors

SAINT CANCELMOOSE™ AND NoCeM

While Cancelbunny abuses the Net, one mysterious individual has resisted the tempting power of the cancel control message with impeccable integrity. The patron saint of the anti-spam movement is known only as "Cancelmoose™." He/she graciously granted us a few sacred words:

"It started around the middle of 1994, when the frequency of spam attacks suddenly started growing exponentially. It became pretty clear that if something wasn't done quickly to stop this, Usenet was going to become completely buried, and wind up useless for anything but spam. There was a lot of discussion on the administrative newsgroup about how these should be canceled, but no one did anything. Finally, I took a very controversial stand, and stated I would cancel any spam that exceeded a certain threshold.

"Until that point, issuing a cancel for a post you didn't write was one of the worst possible crimes on the net. I expected to get a ton of flames, yet much to my surprise there were extremely few, and much gratitude. I did this for about a year, canceling anything above the threshold — yet my most controversial cancel was supported 9 to 1.

"However even this was insufficient — even though I don't think what I was doing was censorship, I didn't want to be 'helping' those who don't want my help. Yet there was no other alternative.

"I wrote NoCeM (pronounced "No See 'Em) as that alternative. (You can learn about it at <http://www.cm.org>) It allows anyone on the net to issue 'notices' about messages that they think are 'bad' for some reason. The end users can then decide who (if anyone) they trust to make this decision.

"The Automoose started issuing NoCeM notices during August 1995 and I haven't issued a cancel since."

As for the identity of Cancelmoose™ or even a sketchy biography, here's all we could get:

"The moose has never issued any statements concerning identity. I have seen various theories that I am: one, many, male, female, a spy, from Norway, from Finland, from the U.S., from Canada, dead, bluffing, and Elvis. Not one of those is based on anything but rumor. Of course, I have never denied any of those, since that would be issuing a statement.

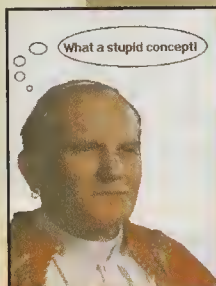
"The most important reason for this anonymity is that it doesn't matter. On the net I'm as real as you are — I have a name, and an e-mail address, and I'm just as reachable. I can be held fully net-responsible for my actions, and I have the track record to show that I haven't 'hid' behind my inability to be found in the real world.

"Most importantly, (anonymity) allows me keep Moose affairs strictly based on the issues. Both people who approve and disapprove of my actions are stuck on the same playing ground — I can't be offered private favours, nor can I be threatened — they can only appeal to the facts of the case at hand. This makes it a lot easier to be impartial."

How's that for a Holy Ruminant?

SACRED SPAM™ SITES

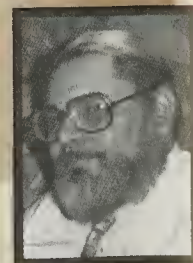
Some people take their SPAM™ with a little religious fervor. John Strong will be happy to indoctrinate you at **John's Shrine to SPAM™** at <http://www.research.umbc.edu/~jstron1/spam.html>. On this sacred cyberground, you can even hear the lusty Viking song, **Lovely SPAM™** in WAV format, read some delicate SPAM™ haiku and meditate over passages from **The SPAM™ Bible**.



Perfect Image
courtesy of John Strong,
<http://umbc7.umbc.edu/~jstron1>

Another, more devout sect is **The Church Of SPAM™** at <http://www.goodnet.com/~swiggy>. In real life, "Pastor Swiggy" is John N! (with a bang?) Swegan, sysop of Prodigy's Comedy Bulletin Board. But on Sundays he offers The 10 SPAMmandments ("2. Thou shalt not form SPAM™ into a likeness of any other meat by-product; (ie; hot dogs, etc.)"), The Books Of SPAM™ ("And he separated the SPAM from the Gel..."), the Tenets Of The Church of SPAM™ ("Polygamy and Polyandry are permitted."), The SPAM™'s Prayer ("Our foodstuff, which art in Kitchen: Hormel be Thy Name!") and other sacred writings, all of which are very much for sale.

**"Pastor Swiggy" of
The Church Of SPAM**



Perhaps Saint Cancelmoose™ inspires you to become a spam-killing crusader. Pray long over your possible vocation — it's a hard, lonely path. The **Cancel Message FAQ** at <http://www.math.uiuc.edu/~tskirvin/home/cancel.html#II.B> (yes, include the quotation mark at the end of that URL) will tell you as much as anyone cares to say about the process of canceling Usenet messages. It does not provide detailed instructions on how to cancel a message posted by someone else — for obvious reasons —

but it describes how to cancel messages that you posted using various Unix, Windows, Mac and OS/2 newsreader programs.

No, the FAQ won't tell you where to get a "cancel-bot," a program that facilitates rapid-fire canceling of many Usenet posts. Don't write to us, either; we don't know – honest! Even Wally Wang, our "Notes from the Underground" expert, couldn't come up with one. If you don't know how to write a cancel-bot, no one will share the code with you. It's just too dangerous.

THE FUTURE OF SPAM

Even Jeff Slaton, the infamous *Spam King*, admits in this month's interview with "Dr. Bob" Rankin that the days of shotgun spam are over. There's just too much wrath to be incurred, and the advertisers who pay spammers are increasingly aware that this "low cost" marketing technique can actually cost them 15 million Internet customers. The money has gone out of professional spamming.

That won't stop the amateurs, though. Every 1.35 seconds, the light bulb goes on in the head of some would-be global infopreneur, who drops an "unheard of special offer" into alt.recovery.net-abuse. Every 0.7 seconds, some ditz with a *four-year degree* in Marketing and Communications gets the "sensational idea" to manually cut and paste 300 "letters to the editor" e-mail addresses into the carbon-copy field of PC Eudora, not realizing that many of the addresses are auto-responders and he's about to touch off a "mail storm" that will catch many real people in its crossfire. Amateur spamming is inevitable, and it will continue to grow as fast as the Internet population.

So far, the Net community has taken care of spammers without government interference. Various proposals are floating around to pass laws regulating unsolicited e-mail in the same way unsolicited junk faxes are handled. The victims can sue the perpetrators for damages of up to \$500 per fax. But newsgroups are public forums, not private entrances to one's home or office as fax machines and e-mail boxes might be. Newsgroup spam is arguably protected by the First Amendment. We may see e-mail spam legislation next year, but newsgroups will probably remain vulnerable.

The fight against egregious and incorrigible spammers is being won at the ISP level. AOL, CIS and Prodigy are successfully litigating for the right to block spam from sites such as Cyber Promotions. Concentric Network recently won a suit against a spammer who tied up Concentric's e-mail servers for over 18 hours. The line between public forums and closed "homes" of many users is moving outward. Perhaps we'll see a class action

suit on behalf of all participants in a given newsgroup, seeking damages from someone who spammed that group.

Slaton and other experienced Internet marketers are moving to targeted e-mailing lists. Many of the addresses on their lists will no doubt be collected without the addressees' knowledge or consent just as postal addresses are traded and sold as if they belonged to merchants and not the people who live at those addresses.) The smart spammers will honor requests to be taken off their mailing lists as quickly as they honor requests to be put on the lists. The dumber ones will perish in gigabytes of flames.

CRAIG SHERGOLD - THE SPAM THAT WON'T DIE

Back in 1989, a 9 year-old English boy named Craig Shergold was diagnosed as having a brain tumor. Doctors advised him to "go home and die in peace," but the little scrapper became an international celebrity instead. He expressed a wish to make the *Guinness Book of World Records* for receiving the most get-well cards ever. Campaigns were organized on street corners, in locker rooms and – heaven help us – on BBSs and Usenet. Urgent appeals to send get-well cards to this "dying boy" flooded every newsgroup and echomail conference on earth.

If you should see a message about Craig Shergold, **PLEASE** don't try to "help;" he's now 17 and fully recovered, thanks to an operation funded by Metromedia Corp. chairman John Kluge. Craig received over **16 million get-well cards** before he "retired" in 1990. But Atlanta-based *Children's Wish Foundation* (which is not affiliated with the national Make-A-Wish Foundation) is still being inundated with "bagfuls" of cards a day. The financially stretched nonprofit had to rent a 10,000-foot warehouse just for "Craig letters" because the local paper recycler can't haul them away fast enough. Even a direct appeal from Abigail Van Buren in her *Dear Abby* column hasn't stemmed the tide.

SCAM SPAM ALERT: A spurious "Craig Shergold" appeal is loose. It falsely claims that Craig wants *business* cards, apparently an attempt to collect a huge mailing list.

For more about Craig and other runaway myths, see <http://www.urbanlegends.com>





PUTTING THE NET TO WORK

by Durant
Imboden

VIRTUAL HALLS OF IVY

The time has come to make a confession:
Bill Gates and I are soul brothers.

Not because we're billionaires. (He
is, I'm not.)

Not because we're technical
geniuses. (He speaks in C++, I speak
in polysyllables.)

And not because we share the same goals and
dreams. (He dreams of being a software messiah; I
dream about hardcore masseuses.)

No; what we have in common is far more prosaic:
We're both college dropouts.

For years, I told myself that if Bill Gates could earn a
fortune despite his lack of a bachelor's degree, so
could I. Then the inevitable midlife crisis hit and I
was forced to accept the fact that, without a B.A., I
probably couldn't find a job as a Wal Mart greeter if
writer's block deprived me of my irregular income. So
I decided it was time to go back and get a degree —
preferably without having to leave the house, since I
dislike commuting and my family wouldn't be pleased
if left home to live in a fraternity house.

As I wrestled with the question of home and family
vs. Harvard, Oxford, or Cambridge, David Hakala of
Boardwatch came to the rescue with the magic
words "distance education." David explained that
some students were earning course credits or even
degrees via the Internet.

The more I thought about this, the better it sounded.
If an online student could earn a degree in four years
at 28.8Kbps, I should be able to complete my educa-
tion in less than a year with a 128Kbps ISDN line.
The die was cast, and I began looking around for an
Internet-based alma mater.

My first stop was the
**University of Phoenix Online
Campus**, which offers instruc-
tion to more than 1,500 busi-
ness and technology students
from its server in San
Francisco, California. The
UOP's Web address is <http://www.uophx.edu/online>. In
a pitch that should have been
vetted for grammar by an
English instructor, the home

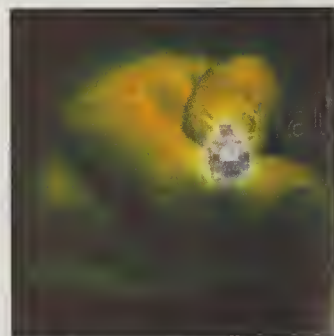
page states that the online campus "offers working
adults the unparalleled convenience and flexibility of
attending classes from your computer keyboard."

Unlike traditional correspondence courses, the
University of Phoenix's online courses have fixed
beginning and ending dates, with calendar deadlines
for homework, reading, and online discussions. The
courses are similar in many ways to classroom cours-
es, except that discussion is handled through e-mail
and bulletin boards. An Online Education FAQ states:
"Our students and faculty find that a level of depth
and breadth can be achieved in asynchronous com-
munication, which is more difficult to achieve with
'real-time' or 'chat-mode' text-based communication."

University of Phoenix classes last five or six weeks
and cost \$350 to \$425 per credit hour, plus \$117 for
DOS or Macintosh access software. Students take just
one course at a time. The typical student spends 15 to
20 hours a week on reading, writing, studying, and
online communications — a degree of commitment
that quickly weeds out students who think "online" is
a synonym for "easy."

Not just anybody can apply for the University of
Phoenix Online Campus. Because degree programs are
limited to business, information systems, and organi-
zational management, liberal-arts candidates must go
elsewhere to seek instruction—a fact that sent me
scurrying off to *D. I. A. L.*, for "Distance Instruction for
Adult Learning," at the **New School for Social
Research** in New York's Greenwich Village.

The New School was
founded in 1919 as
America's first uni-
versity for adults.
During the 1960s, I
took evening courses
in playwriting, maga-
zine editing, and
social sciences at the
New School, so I was
favorably disposed
toward checking out
the DIAL Web site at
<http://dialnsa.edu>.



I learned that DIAL uses traditional correspondence-
course materials such as books, articles, audiocas-
settes, and videos. These are supplemented by online
lectures (posted for reading at the student's conve-
nience), message boards, and private e-mail.

DIAL offers courses in dozens of subject areas—many
with intriguing titles like "History and Politics of the
American West," "In Search of the City: Urban Visions
of the 20th Century," "Scholarly Research and
Communication on the Internet," and "Gender and
the Commercialization of Cyberspace." Most courses

Durant Imboden is
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and short stories;
fiction editing
and staff writing
for *Playboy*;
representing authors
at a New York
literary agency;
and freelance
copywriting for Lotus,
Apple, Northwest
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and other national
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announcer at local,
state, and sectional
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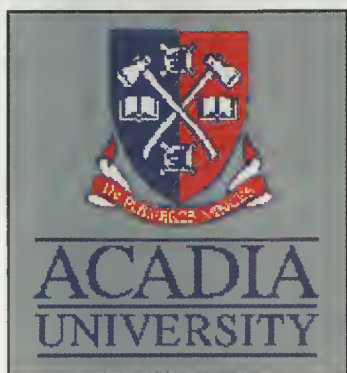


can be taken for credit or noncredit, with tuition fees averaging \$300 to \$500.

Although I would have been tempted to register for DIAL, I didn't have enough credit hours for admission to the degree program — and besides, the idea of foreign study had always intrigued me. Putting New York behind me, I headed for **The Open University** in Milton Keynes, England at <http://www.open.ac.uk/OU/Studying/Internet.html>.

The Open University provides instruction with "paper-based materials" and, in some cases, videos or audiocassettes and home experiment kits. Depending on the class, electronic materials may also be used. Students submit completed assignments to their tutors by e-mail. The graded assignments are returned as Word 6.0 documents, which the students can read in Word or with the free Microsoft Word Viewer.

The Open University has some 300 courses available (many applicable toward undergraduate or advanced degrees), but only a handful of computing-related courses are currently on the Internet. And while The Open University has a reputation for the high quality of its instruction, tuition isn't cheap for U.S. residents. A one-year "Fundamentals in Computing" class has a fee of \$1,355, plus the cost of taking a final exam at the nearest British embassy or consulate.



Firing up my trusty beta copy of WebCompass 2.0, I searched the Net and found **Acadia University** in Wolfville, Nova Scotia, at <http://webster.acadiau.ca/conted>.

Acadia U.'s Continuing Education page displayed a "Magellan 4 Star Site" logo and boasted of an "absolutely gorgeous campus," so I clicked on a link about its Internet courses. I learned

that some 80 courses would be available by Christmas (no mention of Hanukah or Kwanzaa — political correctness must not be a requirement in Nova Scotia), and that students could take Acadia's open-entry courses at any time.

By the time you read this, Acadia should be offering courses in several dozen academic disciplines — including art, comparative religion, geology, history, math, and the various social sciences as well as the inevitable computer and business studies. Fees start at \$387.50 (Canadian) per course, with a 50% or greater discount for senior citizens.

Alas, I couldn't wait until Christmas. It was time to resume my explorations, this time by visiting the **University of Wisconsin Distance Education Clearinghouse** at <http://www.uwex.edu/disted/home.html>. The University of Wisconsin was an early pioneer in distance education, having introduced correspondence courses to the Badger State in 1891. Today, the UW uses ISDN compressed videoconferencing, telephone audioconferencing for up to 120 students, and other technologies to reach its extension students. Only a few courses are offered on the Web, however. These are listed at <http://www.uwex.edu/ilearn/courses/menu-d.htm>.

Since the Badgers didn't offer a suitable degree program, I tried another venue: **Christopher Newport University**, <http://cnuonline.cnu.edu>. CNU Online offers a Bachelor of

Science in Governmental Administration degree over the Internet, with concentrations in criminal justice administration, public management, legal studies, international administration, and police supervision.

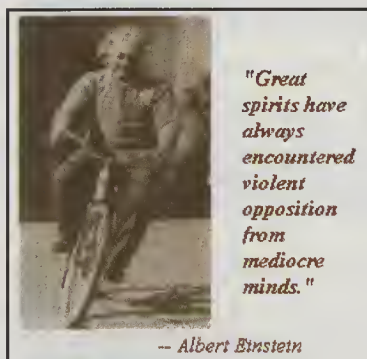
I tried to picture myself as a bureaucrat and decided I'd better change my plans. **Athabasca University** sounded like a better bet, and not only because its location was intriguing: 90 miles north of Edmonton, Alberta, near the farthest reaches of North American civilization at <http://www.athabascau.ca>.



Athabasca U. has specialized in distance education throughout its 25-year history. Its student body of 12,500 is strewn across Canada, the United States, and Mexico, and it offers a variety of undergraduate and graduate programs. Most courses are taught by mail and collect telephone links to tutors. Athabasca does offer a few classes that use bulletin boards, chats, and Web content, and "Internet course delivery" is expected to play a large role in the university's future. But since none of the current Athabasca courses were what I wanted, I leaped across the continent to another Web site: the "CyberEd delivery system" at **University of Massachusetts Dartmouth**, <http://www.umassd.edu/cybered/distlearn inghome.html>.

The UMass CyberEd system makes good use of the Internet with online readings, images, e-mail lists, Web forms, Internet Relay Chat, and student home pages. Sound files, video clips, and computer simulations are occasionally used to enhance lecture materials.

Course offerings vary by semester; recent catalog listings included astronomy, MIDI composition, literary criticism, business and tech writing, chemistry, and politics. Noncredit courses are priced at \$135, 3-credit undergraduate courses are \$365, and graduate courses cost \$437.



Still, UMass didn't have the courses and degree program that I wanted, and I was beginning to feel discouraged. Then, by luck, I found a school that was almost too good to be true: the **University of Berkeley** at <http://www.uofb.com>

The University of Berkeley shouldn't be confused with the University of

California at Berkeley, which is some 2,000 miles away from the U of B's campus headquarters in Southfield, Michigan. The "com" domain suffix also hints that the University of Berkeley isn't your normal educational institution—although I must confess to wondering why its URL didn't end in "edu" or "org," since the university claims to be a nonprofit institution sponsored by the Society of God.

Still, I wasn't in a mood to be picky, especially when I discovered that the University of Berkeley offered credit for "life

experience,” and that “You may have your degree and not know it!” I could even get 20 credits just for examining my life in detail and completing the L.E.A.P. (“Lifetime Education/Experiential Assessment Profile”) form. Additional credits would be granted for experiences such as self-taught computer skills, travel, tax preparation, movies I’d seen, books I’d read, hobbies, or acting in a play.

Best of all, the price was right. I could earn a bachelor’s degree for a prepaid tuition of \$1,500 or receive a combined bachelor’s, master’s, and doctorate for only \$2,995. And if I was in a big hurry for academic credentials, I could apply for an honorary doctorate in return for a contribution that would allow the University of Berkeley to carry out its “charitable and philanthropic work.”

All I needed was \$2,995 — a trifling sum for a writer on the *Boardwatch* payroll — and the ability to decide on my future career. Should I become a Doctor of Philosophy, Education, Divinity, Theology, or Pastoral Counseling? Thanks to the University of Berkeley, the world was my oyster... at a price of less than three thousand clams. ♦

ATTEND HIGH SCHOOL ONLINE

College students aren’t the only scholars earning credits via the Internet. Teenage and adult students of **CyberSchool** are working toward their high school diplomas with courses in world languages, the humanities, mathematics, science, and social studies.

CyberSchool’s virtual schoolhouse is at <http://cyberschool.4j.lane.edu>. The school is an educational program of **Public School District 4J in Eugene, Oregon**, which is fully accredited by the Northwest Association of Schools and Colleges.

Tuition is \$300 per semester course, with the fees being paid by the student’s family or—in some cases—by the student’s home school district.

CyberSchool’s founders make it clear that they aren’t trying to replace traditional schools, but are merely trying to help schools extend their curriculum offerings. Older teen and adult dropouts should check out **Mindquest** at <http://www.mindquest.bloomington.k12.mn.us>.

Mindquest claims to be “The World’s First High School Diploma program completely on the Internet.” The program is sponsored

by Independent Public School District #271 of Bloomington, Minnesota, which operates two large traditional high schools in Minneapolis-St. Paul’s largest suburb.

Mindquest courses are made up of 10 to 12 online activities and assignments that range from essays to bulletin-board discussions. Individual learning projects are part of the educational mix, and students are expected to demonstrate their skills to volunteer proctors such as local teachers, librarians, counselors, or clergy. Graduates receive diplomas from the Bloomington Public Schools or, by arrangement, from their own school districts. Tuition is free to Minnesotans; students elsewhere can send mailto:shape1@prime.net to discuss fee arrangements.

Rural (or antisocial) families that want an online alternative to home schooling should investigate **Cyber High School** (not to be confused with CyberSchool) at <http://www.webcom.com/~cyberhi>. This private Internet academy has a challenging curriculum that includes three years of Latin and four years of math. The curriculum draws heavily on Web resources and uses Internet technologies such as e-mail and chat. Tuition is \$4200 per year. ♦

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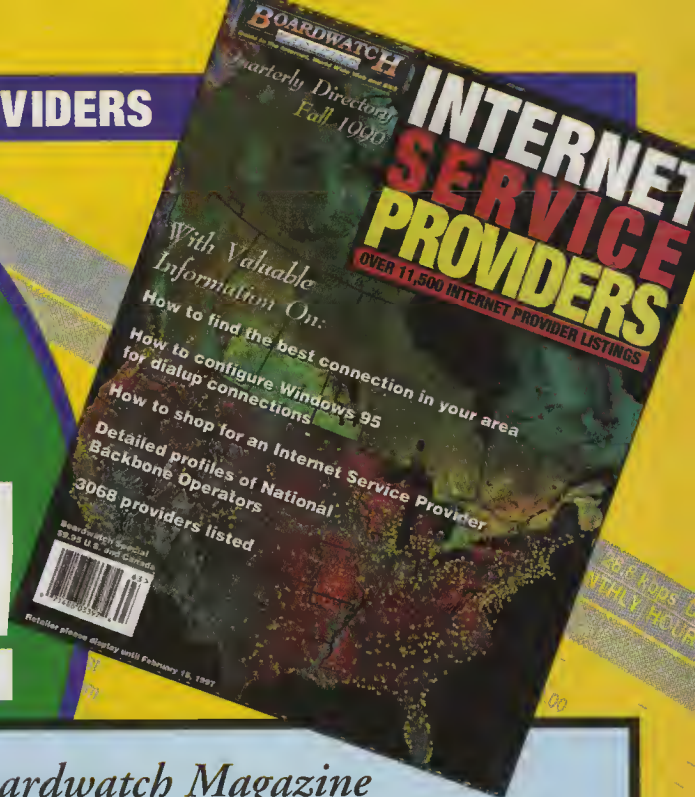
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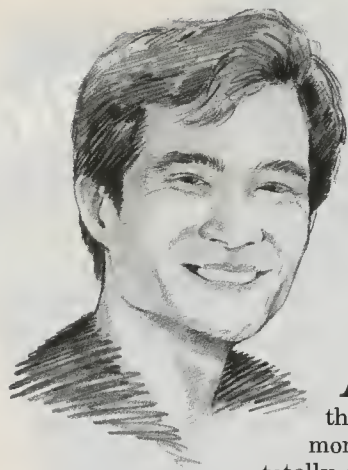
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BOARDWATCH MAGAZINE

Guide to Internet Access and the World Wide Web



BIG BOARD BRIEFS by Wallace Wang

NEW LOOK AND PRICES FOR THE MICROSOFT NETWORK

After spending the past year mulling over the future of online services and the only Microsoft division that plans to lose money for the next five years, Microsoft has totally upgraded the Microsoft Network with a brand new look and price structure.

Instead of the old, confusing mess of folders buried within folders, the Microsoft Network is now divided into four areas called Essentials, OnStage, Find and Communicate. Each area consists of six "channels" of MSN-exclusive content geared to specific interests.

For example, a News, Weather and Sports Channel links to Microsoft's web site venture with NBC dubbed MSNBC. A Showbiz and Games channel hooks to a "Star Trek" page and Entertainment Tonight Online. The four other channels target history and arts, personal health, Generation X features and teen-agers.



MSN also features a Communicate area for e-mail and chat, and a Find area for searching the MSN site and the Internet. Although any web browser can access limited portions of the Microsoft Network, you need Microsoft's special browser, called the Program Viewer, for total access to the Microsoft Network.

To encourage rapid growth for the Microsoft Network, Microsoft has also unveiled a new pricing plan. For customers who want Internet access, MSN costs **\$6.95** a month, which includes 5 free hours per month with each additional hour costing \$2.50. If you want unlimited use for the Microsoft Network and the Internet, an unlimited-usage plan costs **\$19.95** per month (or **\$49.95** per month for ISDN access).

Given Microsoft's new flat-fee option, it's likely that more people will flock to (yet another) Microsoft product as they rush to get on the Internet. After all, why bother getting plain vanilla Internet access for **\$19.95** a month when you can get that plus unlimited access to the Microsoft Network as well?

In response to this, America Online is reportedly mulling over its own flat-fee pricing plan. For \$19.95 a month, America Online may soon offer its members unlimited access to the Internet. But if you want to visit any of America Online's services or forums, then you'll get charged an hourly rate.

No word yet from CompuServe or Prodigy concerning their own flat-fee rates, but given the attractiveness of Microsoft's flat-fee proposal, it seems likely that every online service will have to adopt a \$19.95 flat fee approach soon or risk losing subscribers faster than ever before.

AMERICA ONLINE VS. SPAM E-MAIL

The feud between America Online and online advertiser Cyber Promotions continues, as America Online filed a new motion alleging that Cyber Promotions violated a court order to stop using "misleading" addresses to mask its e-mailed ads.

America Online had won permission to block mailings from Cyber Promotions and other online marketers, but these online marketers allegedly changed domain names and continued sending unwanted e-mail to America Online customers. To counter this, America Online plans to offer e-mail filtering tools so subscribers can selectively accept or block e-mail on their own. Perhaps if these e-mail filtering tools work, everyone on America Online can block out those annoying messages from America Online's marketing department as well.

FREE RIDE ON MSN COMING TO AN END

In case you've been subscribing to The Microsoft Network but haven't yet received a single bill from Microsoft, that's going to change. Microsoft officials said the problem occurred because the system couldn't scale fast enough to keep up with the increase in members.

Ironically, the billing system was designed by Microsoft using their own Windows NT and SQL Server. If MSN's 1.6 million members could have killed their billing system, does anyone in corporate America have much confidence that Windows NT and Microsoft's SQL Server will work reliably for their own needs?

Even if you cancel your MSN account right now, expect to see a bill from Microsoft for your past connect-time charges anyway. Given the fact that the Microsoft Network is the only area where a Microsoft product isn't even close to dominating the

Wallace Wang is the author of *CompuServe For Dummies*, *Procomm Plus for Dummies* and *Visual Basic for Dummies* (all published by IDG Books) as well as *Surfing The Microsoft Network*, published by Prentice-Hall). He also does stand-up comedy in the San Diego area, and has appeared on A&E's "Evening at the Improv" TV comedy club. He can be reached via e-mail at: 70334.3672@compuserve.com or bothekat@aol.com or bo_the_cat@msn.com

market, Microsoft needs all the money they can get to keep the service alive.

AMERICA ONLINE WOOS CORPORATIONS

As the number of computer novices continues to dwindle, America Online plans to shift its main revenue source from individual subscribers (who they can overcharge) to corporations (who are used to being overcharged).

To accomplish this feat, America Online plans to offer their dial-up TCP/IP network to host private corporate intranets. Hewlett-Packard and Sandoz Pharmaceuticals have already signed deals to build intranets through America Online. If a corporation uses America Online for their intranet, any corporate employee could access it through a LAN, dial-up number, or 800-number access.

Besides attracting corporate dollars, America Online plans to bolster sagging revenue through advertisers and online merchants. Let's just hope that America Online doesn't repeat the mistakes of Prodigy and bombard users with useless on-screen advertisements which slow down access time, thereby forcing you to spend more time online, essentially forcing you to pay extra to see ads you don't want to read in the first place.

AN ACCURATE PREDICTION OR SHORT-SIGHTED GUESSING?

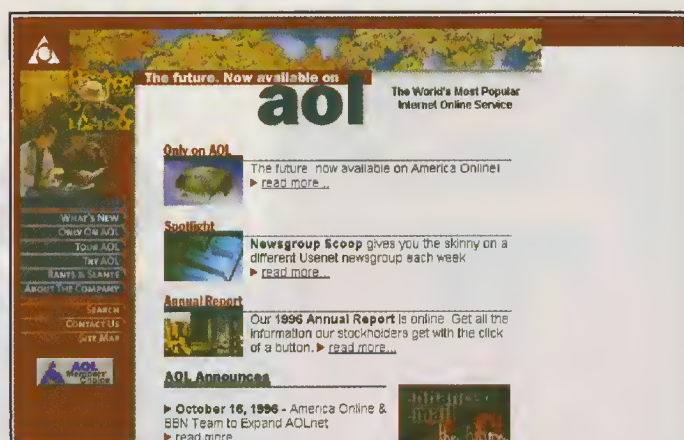
With membership in Prodigy, CompuServe, and America Online stagnating or declining, it's hard to see how online services plan to survive in a world dominated by flat-fee Internet access. Yet despite these gloomy trends, SIMBA Information, a market research company based in Stamford, Connecticut, predicts that online service revenues will reach **\$30.9 billion** by 2000.

According to SIMBA, online services revenue totaled **\$17.7 billion** in 1995 and is expected to grow 16.2 percent to **\$20.5 billion** in 1996. Subscriptions to online services reached 16.3 million in 1995, up 63.9 percent over 1994. The total number of online subscribers is forecast to reach 36.4 million by 2000. Business and professional services will continue to generate the majority of online sales throughout the rest of the century, accounting for more than 88 percent of total industry sales in 2000, according to SIMBA estimates.

Such rosy predictions in the face of declining online service interest and membership makes you wonder if anyone at SIMBA Information has ever used CompuServe or America Online. With more people abandoning online services every month, it's a wonder that America Online stock keeps rising. Then again, given the gullibility of many brokers to shovel stock at clients who don't know any better, America Online stock will probably keep rising right up until the company falls apart under the weight of its own creative accounting.

THE MOST POPULAR WEB SITE IS AMERICA ONLINE

According to PC-Meter, a subsidiary of the market research company NPD Group, a survey of 4,000 U.S. home-PC users equipped with proprietary software, found America Online (<http://www.aol.com>) to be the most popular site among those surveyed with Yahoo search engine (<http://www.yahoo.com>) coming in second and Netscape Communication's site (<http://www.netscape.com>) a close third.



If the idea of spending your time on the Internet to read about America Online seems a bit odd, take some time to read the full text of the survey at <http://www.npd.com>.

PRODIGY PICKS INTERNET EXPLORER OVER NAVIGATOR

Following in the wake of America Online and CompuServe, Prodigy announced that they plan to make Microsoft Internet Explorer 3.0 the default browser for Prodigy Internet, Prodigy's new Internet-based online service. Combined with Microsoft's previous deals, Internet Explorer has the potential of reaching several million members on America Online (6 million members), CompuServe (5 million members), the Microsoft Network (1.6 million members), and now Prodigy (1 million members).

In exchange for agreeing to shove Microsoft's Internet Explorer at its subscribers, Prodigy also wins the right to have their software integrated in future versions of the Windows 95 desktop along with America Online and CompuServe. In case you want to see what Prodigy is doing lately, visit their web site at <http://www.prodigy.com>.

AMERICA ONLINE TAKES OVER WINDOWS 97 AND SYSTEM 7.6

After initially screaming at Microsoft for bundling their communications software for the Microsoft Network in Windows 95, America Online hasn't mentioned this topic one bit lately — with good reason. After agreeing to throw Microsoft's Internet Explorer at their 6 million members, America Online soon inked a deal with Microsoft to put America Online's software in the next revision of Windows 95 (dubbed Windows 97). That means new computer buyers should find America Online's software in the Windows 97 desktop along with the Microsoft Network, CompuServe, and Prodigy.

Not content to stop there, America Online has recently announced that Apple Computers (who have invested wads of money in America Online) will include America Online software with their new operating system update, System 7.6. No word yet on including Macintosh versions of CompuServe or Prodigy software but given Apple's investment with America Online, CompuServe and Prodigy's general lack of interest in catering to Macintosh users, and the unavailability of a Macintosh version of the Microsoft Network, don't be surprised if more Macintosh users flood America Online at the expense of rival online services. ♦



BOOK BYTES by L. Detweiler

Internet Telephone Toolkit

by Jeff Pulver
1996, John Wiley
and Sons, Inc.
201 pages, **\$29.95**,
includes CD ROM
ISBN #0-471-16352-X

<http://www.wiley.com/compbooks>

This book's cover and first page is peppered with effusively laudatory and grandiose quotes on Jeff Pulver by his writer friends in high places such as *Time*, *Wired*, *Internet World*, etc.: "No one knows voice on the Net technology like Pulver," "from Taipei to Tel Aviv, the most knowledgeable practitioner of Internet telephony," "the preeminent authority on Internet telephony," "the Thomas Jefferson of internet telephony," "to call him tireless would be an understatement," "one of the great pioneers of Internet telephony... when the history of communications in the twentieth century is written, he'll merit pages to himself." Whew! Is this a book, or a Pulver fan convention? We're amused at how all this hype fails to refer specifically to the book itself and we're a tad suspicious that maybe all these quotes were given without even reading it!

Hyperbolic hype aside, Pulver has delivered the first major book on what we perceive is the fledgling birth of an entire new industry, and while we don't agree with the exaggerated and almost embarrassing fawning quoted above, Pulver really is the most qualified individual on the planet to write this book. Pulver has tracked the field and been its premiere advocate from its embryonic inception in 1995. Pulver was one of the first to recognize the significance of Internet telephony and he's clearly been positioning himself to surf the wave before anyone else even realized the surf was up. He seems to have found his *raison d'être* and his enthusiasm and passion for the subject are conveyed in the text.

Pulver has 7 chapters on the key software packages: Internet Phone, WebPhone, WebTalk, TeleVox, CoolTalk, FreeTel, and NetMeeting. He's done an excellent job of comparing all the packages and his many hours of mucking around with the software show through in the book. A sparkling chapter "Typical Problems with Internet Telephony" was clearly hard-won from tortuous battles-in-the-trenches. An appendix has a great list of URLs to all the packages' home pages.

With big type and lots of white space, the book is a bit on the puffy side, but that is more than made up for with the jam-packed CD contents: VocalTec's Internet Phone 3.2 and 4.0 Demo Versions, Internet Wave, Voxware's TeleVox ToolVox, NetSpeak's WebPhone, FreeTel Communication, VDONet's VDOLive video player, White Pine Software's CU-SeeMe, Telescape's TS Intercom, IDT Corp.'s Net2Phone, IRIS Systems' IRIS Phone, IBM Internet Connection Phone beta version, Tribal Voice's PowWow.

This is an outstanding book for the neophyte and hacker alike. The complicated and glitch-ridden nature of the field at this point make this book indispensable for those interested in the daring adventure of bypassing Ma Bell. (See <http://www.pulver.com> for more information on the book and Pulver.)



Dave Barry in Cyberspace

by Dave Barry
1996, Crown
Publishers,
Inc.
215 pages,
\$22.00
ISBN 0-517-
59575-3

<http://www.randomhouse.com>

The book cover declares, "If ever a subject was made for an author, Dave Barry and cyberspace are perfectly matched. Just imagine what can happen when Dave and his computer go *mano a mano*." We would give a measured nod of approval or modest endorsement to this book here but instead we are POFFL (Paralyzed On the Floor From Laughing).

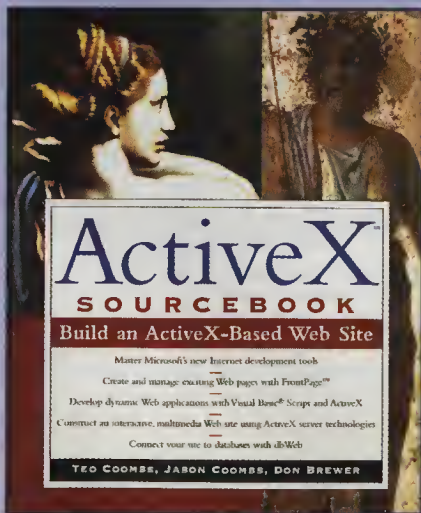
Barry has an almost mystical ability to find intensely funny comic material in the most mundane situations. He has a reputation for lighthearted mockery and

satire, but we consider him a brilliant writer with an uncanny grasp of the writing craft.

This book borders at times on the poignant and gripping, with a short (fiction?) story on the quirky, detailed history of a chat-line love affair. The book ranges over many computer topics such as installations, chat lines, web surfing, computer conferences, Windows 95, word processing, computer conferences, pornography, and the Internet.

Pale and humorless computer geeks are not likely to find anything very funny in the book, as Barry wildly waves his brush and spares no sacred cows from his uproarious parody. But perhaps it would be useful for them to realize how idiotic and suttifying some of their schemes turn out to be in the "cold light of day." The section on software installation, in which Barry is confronted with all kinds of high-tech tortures such as incomprehensible requirements, scary licensing agreements, intermittent pop-up dialogs that say, "the installation program will now examine your system to see what would be the best way to render it inoperable. Is that OK with you?" with the user given the choices "yes" and "sure" — we all found to be pathetically true. Perhaps this book should be required reading for all software engineers so they may see how foolish some of their supposedly "ergonomic" design decisions actually register as.

Barry has succeeded in capturing the mechanical yet viscerally human color of cyberspace in his canvas. This book will go miles towards sustaining some of its readers through all the colorless technical manuals some live by and helping them put it all into a more cosmic perspective.



ActiveX Sourcebook

by Ted Coombs,
Jason Coombs,
Don Brewer
1996, John Wiley
and Sons, Inc.
392 pages, \$24.95
ISBN 0-471-16714-2

<http://www.wiley.com/compbooks>

ActiveX is Microsoft's name for a supposedly cohesive development paradigm and collection of software capabilities tied particularly to web pages. Looking over this book, however, the standard feels like a grab-bag of odds and ends that Microsoft has scrambled to put together to compete with Netscape's own vision. Two very key pieces, *FrontPage* and *dbWeb*, were products originally

designed and written by different companies that were later acquired (some would say "swallowed") by Microsoft.

The book is low on hard-core programming minutiae such as API descriptions. The ActiveX Software Development Kit is given brief coverage. Other chapters cover FrontPage, Visual Basic Scripting Edition, ActiveX controls in web pages, dbWeb web/database utility, ActiveX multimedia formats such as Active Movie and PowerPoint animation, the ActiveX conference system called Net-Meeting, Internet Server Application Programming Interface (ISAPI), and building Visual Basic applications using ActiveX Internet controls.

The authors necessarily have a Microsoft slant and take lots of veiled jabs at Netscape in a tone reminiscent of the wrangling and distortions found in political ads: "ActiveX doesn't attempt to gain a strangle-hold on the Web by continually introducing new HTML tags while at the same time creating the only Web browser that can view those tags." "Unlike Java applets, however, ActiveX components aren't crippled by a slow run-time engine or absurd security concerns which assume that even respected, well-known software vendors are going to try to infect user's computers with damaging viruses." But what about cases of reputable companies — including Microsoft — that have inadvertently shipped software with viruses?

As reflected in this book, Microsoft is in the strange position of simultaneously adopting Java but somewhat downplaying it in favor of its Visual Basic capabilities. One key aspect of the ActiveX technology that discriminates it from the Java "sandbox" approach is more emphasis on the responsibility of software writers to create safe and virus-free software. Hence a major part of ActiveX (but still under development) is the creation of a "certification hierarchy" in which delivered software is digitally signed by companies, and their reputation is the factor that supposedly ensures its safety. This is in strong contrast to the Java approach of trying to create an environment at the end-user position in which it is technically impossible to write damaging software and its source is irrelevant. The major question that will be answered over the coming years in the Netscape vs. Microsoft visions: can one have full-featured software while still preventing virus creation?

We're only reviewing a book here and don't want to wade into the middle of perhaps the fiercest and most bitter jihad raging in cyberspace. But the reader should be aware that there are some very major design decisions to be made, with significant impact on future currents, in considering the ActiveX paradigm vs. the competing Netscape approaches. This book is a good early entry in giving a snapshot of the current Microsoft vision and plan of attack, but the big picture here is changing as fast as electrons in cyberspace. ♦

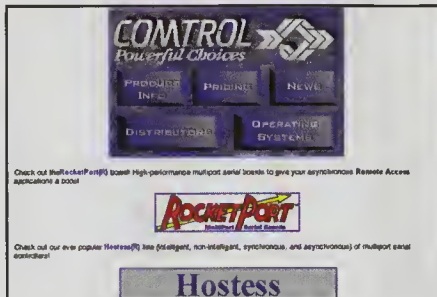
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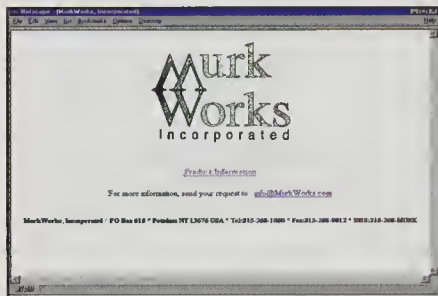
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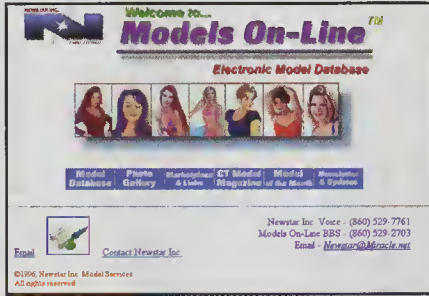
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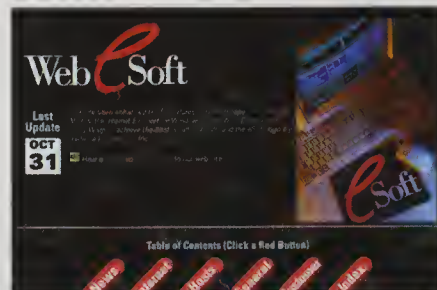
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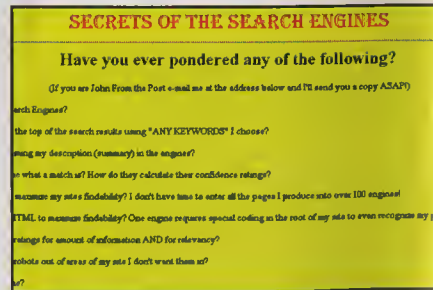
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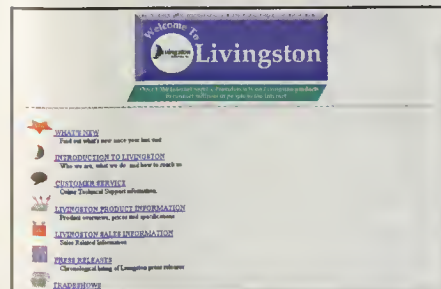
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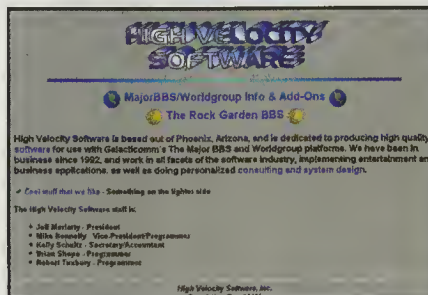
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DVORAK ONLINE by John C. Dvorak

WHO SAYS SEX DOESN'T PAY??

That was the attention getting subject header of the spam. It came from a company called USA Advertising. It was sent by a guy named Matt (mailto:matt@funtown.org). And gosh, the headline in the message read: **THAT'S RIGHT, IT'S TRUE, GET PAID TO HAVE SEX WITH BEAUTIFUL WOMEN!!!**

Then it tells me, *"There are over 100 companies in most major cities of the U.S. that have these programs available to you. These programs are SAFE and LEGAL. These companies will pay you for short term or long term commitment to have sex. YOU get to choose from their wide selection of mates. These are professionals who extend such opportunities to people such as you and I. They supply you with a work area and total privacy. Their business environment is very calm and relaxing. Everything is CONFIDENTIAL. All you have to do is be ready and willing. That's all there is!!!"*

Uh, now exactly how did I get on this mailing list?? I was feeling mighty studly. Was this a solicitation to be a male prostitute (the hetero kind) or not?? And they wanted me! ME!! (As if they knew me from Adam.)

The offer boiled down to giving these folks **\$19.95** to get a listing for all the companies who in some way or other pay you to have sex. Yeah, right. Right away this looked fishy because it involved a lot of people. I was supposed to send the check to *Saquan Tucker* in Orangeburg, South Carolina, but make the check out to *Tory Kenan*. Meanwhile the note came from some guy named *Matt*. I'm sure someone named *Bubba* was involved too. And you can just imagine that I sent off for my listing immediately (not). The headers on this beaut included a passthrough at somewhere.com from an unverified mail daemon.

We're all faced with a lot of spams nowadays. I get at least five or six a day at different boxes, including many repetitive ones from Floodgate — a professional spammer who wants everyone to take part in this mess. Most of the spams are bullshit get-rich-quick schemes.

The most annoying spams pose as personal messages and they too have sexual overtones. Here is a typical spam I've received on CompuServe. It's not the kind of thing you overlook when it shows up in the inbox. I mean everyone knows someone named Lisa, don't they?

Subj: Hi :-)

Date: 96-10-19 17:35:48 EDT

From: lisa

Reply-to: lisa@mail.hotgrrls.com

To: (Lisa!)emin28.mail.aol.com

Hi :-)

I came across this great web site. You can find it at

<http://www.luv2cu.com>

See ya!

Lisa

Now I'm beginning to wonder what mailing list I ended up on to get this spam. I must have hit a porn site or something and bingo — my CIS number is passed around like a joint at a Grateful Dead concert. I've gotten a similar message from Linda, Heidi, Paula and Brooke. Hi, girls!

It makes you wonder what this world is coming to. As you may have noticed, the columnists are mostly talking about Spam in this issue of **Boardwatch**. It's a theme. I'm probably the only one with mixed feelings, since I used to do direct mail work and still enjoy writing one of those solicitation letters you often get in a direct mail package. In fact, that boldface stuff you see in my **PC Magazine** column is largely derived from direct mail theory. While I'm sympathetic to the poor bastard trying to eke out a living in mail order, I'm concerned about spamming on e-mail. Let me outline my concerns.

Most obvious is the fact that the spamming is shotgun and poorly targeted. In fact I've never spent a nickel on a porn site and never will. SO why am I getting solicitations to spend money? I'm not a male prostitute and have no real interest in getting paid for sex. There's not enough free sex as far as I can tell. Who expects to get money?! Exactly who is the market for the get-paid-for-sex scheme? Idiots, probably. Even the more believable plain old get-rich-quick schemes are missing the target when I get them.

What soon becomes obvious is the fact that because e-mail is free, there is no reason to do your homework and actually target the pitch. Hell, just send it to EVERYONE! Got a list of names? Send them every-

In addition to his weekly syndicated radio call-in show, "Software/Hardtalk," syndicated newspaper columns, magazine writing for *MacUser*, *PC Computing*, *DEC Professional*, *Information Technology*, and his featured "Inside Track" column in *PC Magazine*, Dvorak is the author of several best-selling books, including *Dvorak's Inside Track to DOS & PC Performance*, *Dvorak's Guide to PC Telecommunications*, and *Dvorak's Inside Track to the Mac*. John can be reached at mailto:dvorak@aol.com

Dvorak's Recipe Nook



thing! It doesn't cost any more to send to a pool of 100,000 e-mail addresses in hopes of hitting 100 buyers than it does to send to a refined target list of 1000 to hit the hundred. Those 1000 targeted people may actually be interested in the product. 99,000 of the big list aren't interested in the least. But the mailer can send to the big list without financial regret, hoping to get the one extra sale.

While I get maybe a dozen solicitations a week for various goods and services, this kind of shotgun-who-cares thinking is going to make all our lives miserable. In direct mail, you lose money if you solicit people who do not want to buy. So you are careful, or you go broke. With e-mail marketing, this natural selection process will never happen and we will all eventually receive every solicitation for every single product and service offered. Why should anyone care about targeting when mail is free?

This is going to become a serious problem. Some users think e-mail bombs (loading a box to FULL with crap) and other techniques aimed back at the marketers will stop them, but spammers' counter-measures will control that. Luckily, 99 percent of these crummy solicitations can be effortlessly erased. And I guess that helps for now. But I wonder what we will do when thousands of spams show up in our e-mail each and every day. We'll be changing our address a lot! That's what. ♦

The biggest casualty of junk bulk e-mail is that venerable luncheon meat made by Hormel Foods Corp. The only international food processor that has official corporate policies addressing the humane treatment of feedlot animals is chronically distressed to have its famous trademark associated with the Internet's greatest scourge.

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- 1 (6-oz.) package long-grain and wild rice mix
- 1 1/2 cup chopped carrots
- 1 1/2 cup chopped red bell pepper
- 1/2 cup orange juice
- 1 (12-oz.) can SPAM™ Lite luncheon meat, cut into thin strips
- 2 cups chopped fresh mushrooms
- 1/2 cup sliced green onions
- 1 tablespoon Dijon mustard
- 1 1/2 teaspoon dried basil leaves
- 1/2 teaspoon black pepper
- 6 sheets frozen phyllo pastry, thawed
- Butter-flavored nonstick cooking spray
- 1 tablespoon dry bread crumbs
- Soy sauce

Prepare rice according to package instructions. Combine carrots, bell pepper and O. J. in a saucepan and bring to a boil. Cook covered 5-7 minutes or until veggies are tender but crisp. Drain and transfer veggies to a medium bowl. Sauté SPAM™, mushrooms and green onions until tender. Mix SPAM™, veggies and spices.

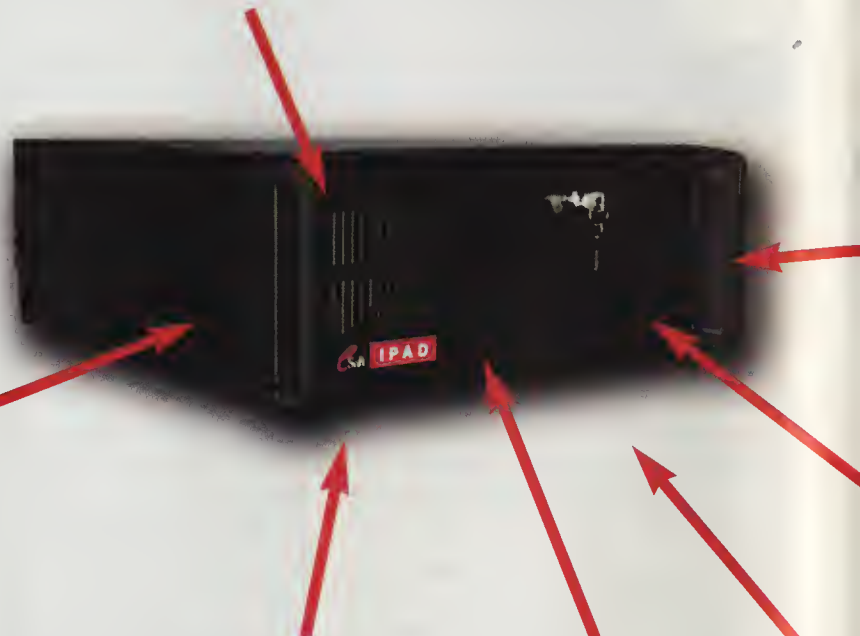
Place 1 sheet of phyllo on a damp towel and lightly coat it with cooking spray. Layer remaining sheets atop first, with cooking spray between each sheet. Spoon SPAM™ mixture onto stack, leaving a 1 inch border. Roll the phyllo jelly-roll style starting with the long end. Tuck ends under. Place seam-side down on baking sheet coated with cooking spray. Lightly coat top of roll with cooking spray, sprinkle with bread crumbs and make 12 diagonal slits along roll. Bake 20 minutes at 375 degrees or until golden brown. Serve with soy sauce. ♦

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